Journal of Small Business Management 2010 48(4), pp. 475–496

The Influence of CEO Gender on Market Orientation and Performance in Service Small and Medium-Sized Service Businesses

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This study examines the effects of CEO gender on market orientation and performance (growth and profitability) among a sample of small and medium-sized service businesses. Gender was found to have significant indirect effects (via market orientation) on both market performance (growth) and financial performance (profitability). That is, female-led service SMEs perform significantly better due to their stronger market orientation relative those led by males. The findings further suggest that female-led firms were slightly better than their male-led counterparts in transmitting market performance into financial performance, although the differences were not statistically significant.

Introduction

To understand the importance of research on gender in association with market orientation and performance, one only need look at recent trends in business foundings and ownership. The past decade has seen an unprecedented influx of women into the ranks of business ownership and management. In recent years (1997–2006), women-owned businesses in the United States have experienced rapid growth, especially in the services (up 69 percent to 5.3 million

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firms) and retail trade (up 130 percent to 1.1 million firms) sectors (Center for Women's Business Research 2006). With recent reports indicating that one of every eleven women in the United States is now a business owner (Hopkins 2003), recent estimates are that women own or co-own nearly nine million businesses or nearly 40 percent of all businesses in the United States. The National Women's Foundation (2004) reports that women are initiating new business at twice the rate of men. The upsurge in the ranks of female business owners and managers is anticipated to accelerate over the next decade as females inherit the ownership and management of companies founded during the postwar business expansion (Achua 1997; Daniels 1997).

When considering organizational behaviors and performance as reflections of top managers, it has been held that there is value in analyzing observable, stable demographic characteristics of leaders, such as age, education, and gender, an approach that Hambrick and Mason (1984) formalized as upper echelons theory. Such approaches rely on directly measurable attributes of individuals, such as gender, to proxy attitudinal and normative variables (Pfeffer 1983). Despite being the subject of occasional criticism (Lawrence 1997), a substantial body of research has accumulated that supports managers' demographic characteristics as potentially impacting firm performance (Michel and Hambrick 1992; Finkelstein and Hambrick 1990; Astley and Van de Ven 1983).

Over the past decade, researchers in entrepreneurship and small business have investigated the direct links between leader gender, as a key demographic variable, and performance outcomes. Comparisons of female-led versus male-led businesses on a variety of firm performance measures such as revenue, profit, growth, and discontinuance rates have yielded mixed results. While some studies supported differences in performance across female-led and male-led businesses (Du Rietz and Henrekson 2000; Fasci and Valdez 1998; Rosa, Carter, and Hamilton 1996; Cooper, Gimeno-Gascon, and Woo 1994), other researchers reported finding no differences in performance (Johnson and McMahon 2005; Watson and Robinson 2003; Watson 2002; Anna et al. 2000; Fischer, Reuber, and Dyke 1993; Kalleberg and Leicht 1991). Notwithstanding previous efforts, the evidence regarding the effect of gender on performance remains scant and inconsistent.

Much of the research investigating gender effects sought to explain variations in performance stemming from demographic differences such as age, education, and business background (Brush 1992). More recently, it has been suggested that observed performance differences, if any, may not be due to gender directly, but rather may be indirect, perhaps via gender's influence on other variables that affect performance (Watson 2002; Anna et al. 2000). However, a review of the entrepreneurship literature revealed, with limited exceptions, such as Langerak (2001a, 2001b) and Verhul and Thurik (2001), an absence of studies that investigate the possible effects of gender on important modes of achieving competitive advantage that research has shown to be antecedent to performance outcomes.

The rapid emergence of women as owners/Chief Executive Officers (CEOs) of small businesses has important implications for the economy and for the study of entrepreneurship and small businesses. Despite the limitations of various theoretical frameworks for understanding gender differences (Fischer, Reuber, and Dyke 1993), the academic literature provides compelling reasons to expect gender to make a difference in firm performance. However, the available empirical research on gender as a basis for performance differ-

ences has been largely inconclusive. This study contributes to a better understanding of gender effects by systematically distinguishing between direct and indirect gender effects (as mediated by market orientation) on performance using data from a field study of small and medium-sized service businesses (SMEs). The balance of the paper begins with a conceptual framework, a review of the literature, and hypotheses linking gender to firms' market orientation and to two aspects of firm performance: market performance and financial performance. Next, the research methodology is described and study results are presented. Finally, a discussion is provided and promising areas for further research are identified.

Conceptual Framework and Research Hypotheses

Market Orientation and Performance

Market Orientation. Considerable theory and research support the development of a market orientation (Kohli and Jaworski 1990; Narver and Slater 1990) as a key to performance in SMEs (Pelham 2000, 1997). Market orientation represents the implementation of the market concept, an important cornerstone of the marketing discipline (Grewal and Tansuhaj 2001). While a number of conceptualizations of market orientation have appeared in the literature over the past two decades, the two dominant frameworks are those proposed by Narver and Slater (1990), who advocate a (organization) culturally oriented approach and the behavioral-oriented approach of Kohli and Jaworski (1990). The latter approach describes market orientation as the implementation of the marketing concept, which posits that organizations should focus on meeting the wants and needs of its customers. Kohli and Jaworski (1990) defined market orientation as including activities that address the "organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to this intelligence." Kohli and Jaworski (1990) contend that the greater a firm's market orientation, the more likely they are to produce product/service offerings tailored to fit a market segment's specific tastes and preferences. Therefore, a market-oriented firm is more likely to achieve high levels of customer satisfaction, keep existing customers loyal, attract new customers, thus attaining desired levels of growth, market share, and, subsequently, profitability. Because a goal of the study was to assess the effects of gender on specific actions or behaviors, managers may emphasize that are representative of a market orientation, we operationalized market orientation consistent with Kohli and Jaworski's (1990) framework.

A substantial body of empirical research supports a positive relationship between market orientation and performance (Matsuno, Mentzer, and Ozsomer 2002; Homberg and Pflesser 2000; Matsuno and Mentzer 2000; Matsuno, Mentzer, and Rentz 2000; Siguaw, Simpson, and Baker 1998; Jaworski and Kohli 1993; Kohli, Jaworski, and Kumar 1993). The question as to whether this positive relationship holds true in the context of small and medium-sized enterprises was explored by Pelham (2000, 1997). His studies of small to medium-sized manufacturing firms showed that market orientation had a stronger relationship to performance than did strategy selection, firm size, or industry characteristics.

Market and Financial Performance. The diverse array of criteria used to assess organizational performance can be largely subsumed under the two primary dimensions of effectiveness and efficiency (Cameron and Whetton 1983). In the systems framework of Katz and

Kahn (1978), efficiency refers to the internal functioning of an organization and generally has been considered to be best represented through some ratio of inputs to outputs. In contrast, effectiveness refers to the firm's ability to relate to its environment, particularly in regards to the acquisition of scarce resources, such as revenue. The theoretical distinction between efficiency and effectiveness as aspects of performance has operational implications. In strategy research, efficiency is often approximated by the profit margin, using measures such as return on assets and return on investment (ROI), while characteristics describing growth and market share are used to indicate effectiveness (Lenz 1978).

There is mounting evidence suggesting there may be a stronger relationship between market orientation and market performance, as indicated by revenue growth and market share, than financial performance, as indicated by measures of profitability, such as return on sales. For example, a study by Narver, Jacobson, and Slater (1993) found that market orientation was directly and significantly related to sales growth, but not to ROI. The nature of the relationship between market orientation, growth, and profitability among the population of U.S.-based SMEs was suggested by Pelham (1997). He found the profit impact of market orientation was mediated through such indicators of firm effectiveness as share growth. The generalizability of this effect is suggested in a recent study of German business units by Homburg and Pflesser (2000), which also found a positive link between market performance and financial performance.

In line with the preceding, we model the effects of market orientation on financial performance as primarily stemming from market performance. Our treatment of market performance as an antecedent to financial performance is consistent with recent contentions in the literature on small and medium-sized enterprises that "growth helps to establish legitimacy, achieve economies of scale, attract investment capital, and increase profitability" (Nicholls-Nixon 2005, p. 77). In addition, established economic theory (Baumol 1959) and a substantial body of prior research (Buzzell 1981; Buzzell and Wiersema 1981; Gale and Branch 1982) support the premise that market performance gives rise to financial performance.

Gender and Performance

In investigating the role of gender, this study is theoretically grounded in top management team demography research. This stream of research postulates that the top managers' attributes, including gender, are associated with choices of strategic orientations or market postures and performance outcomes (see Finkelstein and Hambrick [1996] for a comprehensive review of this line of research). Undoubtedly, the link between demography, cognition, and behavior is a complex one. Demography research seeks to simplify this relationship by assuming that similarity along such visibly salient variables as age, gender, or race, are appropriate surrogate indicators of as to whether or not individuals will share a common set of attitudes, values, and norms. For example, a manager's age has been used as a surrogate measure of risk orientation based on observed correlations between age and risk. The underlying rationale for gathering demographic rather than cognitive data when examining the consequences of demographic distinctions is that "mental processes . . . are more difficult to access and reliably measure" (Pfeffer 1983, p. 351). Many researchers view demographic variables as more objective, as yielding more parsimonious explanations of organizational phenomenon, and as more easily submitted to testing than cognitive variables (Ham-

brick and Mason 1984; Pfeffer 1983; Wiersema and Bantel 1992).

Gender has been prominent among the demographic characteristics proposed to influence performance (Du Rietz and Henrekson 2000; Cooper, Gimeno-Gascon, and Woo 1994; Fasci and Valdez 1998; Fischer, Reuber, and Dyke 1993; Kalleberg and Leicht 1991; Rosa, Carter, and Hamilton 1996). Although females and males may work at the same hierarchical level—for example, CEO—with similar responsibilities in similar organizational settings—here, SMEs in the service sector—it continues to be suggested that female-led and male-led businesses will tend to perform differently on a variety of measures, such as growth and profit (Du Rietz and Henrekson 2000).

The literature argues that the relationship between gender and small business performance is a complex phenomenon (Rosa, Carter, and Hamilton 1996), and research has provided ambiguous results as to whether the effects of gender on performance are direct or mediated by other variables. Over the years, many studies reported finding a direct effect of gender on performance among small businesses (Chaganti and Parasurman 1996; Cooper, Gimeno-Gascon, and Woo 1994; Du Rietz and Henrekson 2000; Fasci and Valdez 1998; Fischer, Reuber, and Dyke 1993; Kalleberg and Leicht 1991; Robb 2002; Rosa, Carter, and Hamilton 1996). Consistent with their results, we initiate our study by proposing that the gender of the CEO directly affects organizational performance.

While considerable research suggests a direct link between gender and performance, some researchers found no effect of gender on performance (Chell and Baines 1998; Kalleberg and Leicht 1991), still others, such as Johnson and McMahon (2005), cast doubt on the proposed direct relationship between gender and performance. Furthermore, it has been suggested that imitation of successful male role models may lessen any potential gender effect that may have existed in the past by suggesting that "the profile of women entrepreneurs in the future will continue to . . . move close to that of their male counterparts" (Birley 1989, p. 37). Consistent with this logic, Anna et al. (2000) and Watson (2002) proposed that the rapid increase in women-led businesses may be associated with a diminution or elimination of direct effects associated with gender differences. Nevertheless, we thought it important to subject this hypothesis to a formal test. Thus, the following hypotheses propose the direct effect of gender on both market performance (growth) and financial performance (profitability).

H1a: CEO gender is directly related to market performance.

H1b: CEO gender is directly related to financial performance.

Gender and Market Orientation

In recent years, a stream of research studies report finding an indirect gender effect in which the effect of gender is mediated by other variables (Boden and Nucci 2000; Carter, Williams, and Reynolds 1997; Cliff 1998; Collins-Dodd, Gordon, and Smart 2004; Du Rietz and Henrekson 2000; Loscocco et al. 1991; Rosa, Carter, and Hamilton 1996; Watson 2003, 2002; Watson and Robinson 2003). To date, none of these studies investigated market orientation as a potential mediator of the gender-performance relationship.

There is a rich theoretical body of literature supportive of the notion that market orientation may be impacted by the differences among CEOs in such key demographic characteristics as gender across organizations (Finkelstein and Hambrick 1996; Hambrick and Mason 1984). While inherently, market orientation is neither "masculine" nor "feminine," it is developed and used in

contexts that result in certain values and meanings being ascribed to them and to those who interact with them. In other words, to the extent that market orientation is "socially shaped," particularly by gender (Harris and Wilkinson 2004), women's concern with developing and maintaining customer relationships potentially could have a positive impact on market orientation.

The expectation that women and men behave differently is embedded in our society and institutions (Bem 1993). Sociologists argue gender differences emerge because men and women are socialized into different gender roles (Bem 1981), and, consequently, develop in ways that shape their work-related values, decision-making, and strategic behaviors. For example, the widely held perception that women are more "relationship focused" than men has led some to propose that male and female managers differ in how they manage customers (Swan et al. 1984). Some empirical studies report that men and women differ, at least in degree, in their relational orientation (Riger and Gilligan 1980), and that women are more concerned with establishing interpersonal relationships with customers than men (Cartwright and Gale 1995). Conjecturally, the greater concern shown by women for the relational aspects of marketing and sales (Lane 2000) could be of benefit in developing a market orientation (Narver and Slater 1990).

While there is some evidence that gender plays a role in developing and maintaining relationships between buyer and seller (Palmer and Bejou 1995; Smith and Bejou 1995), those studies that addressed gender differences in strategic behaviors among small and medium-sized enterprises (Carter, Williams, and Reynolds 1997; Chaganti and Parasuraman 1996; Powell and Ansic 1997; Sonfield et al. 2001) yielded largely inconclusive results. So, while both theory and research point to the importance of gender differences, the question as to whether a leader's gender affects market orientation in the SME context remains unanswered.

A synthesis of the preceding can help us develop hypotheses about the impact of gender on market orientation. Because women are considered to be more likely than men to emphasize approaches that are focused on developing a relationship with their customers, we expect that women will be more likely than men to emphasize developing a market orientation as a major focus of the firm's market efforts. We formalize these expectations in the following hypothesis.

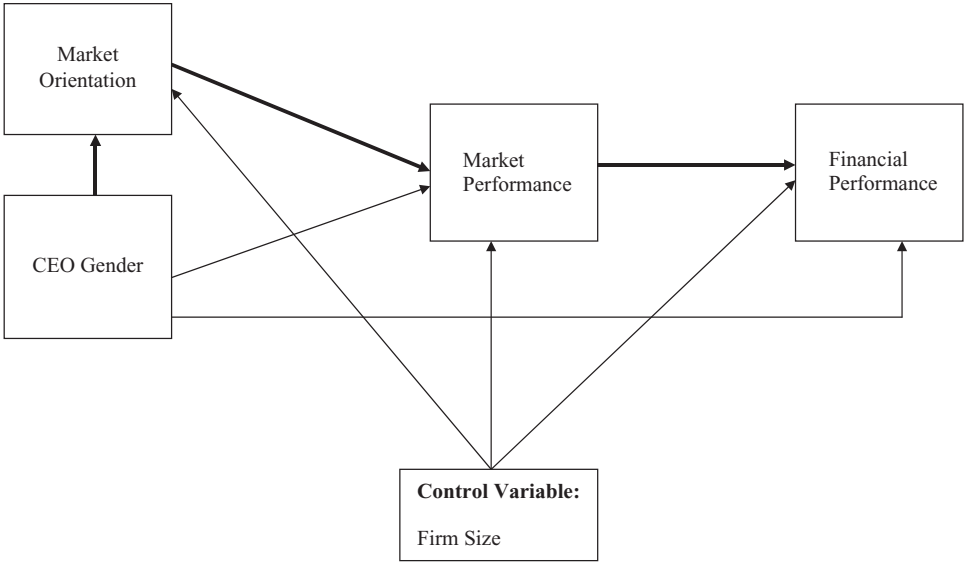
H2: Female managers will place a greater emphasis on market orientation than male managers.

The conceptual model generated as a result of the preceding discussion is illustrated in Figure 1. The model shows the role that gender is posited to play in determining the extent to which market orientation will be evident, as well as the effects of market orientation on performance. The figure also includes firm size as a control variable, as discussed later in the paper.

As shown in Figure 1, CEO gender is hypothesized to have direct effects on financial market performance (H1a), financial performance (H1b), and market orientation (H2). Implicit in the model is the indirect effects of CEO gender, through the mediating role of market orientation, on market performance and financial performance. We advance the following hypothesis to formally examine the indirect effects of CEO gender.

H3: CEO gender will have a significant indirect effect, mediated by market orientation, on market and financial performance.

Figure 1
Research Model



Methodology

Research Design

We focused our investigation on the multitude of SMEs that constitute the vast majority of firms in the U.S. economy for several reasons. First, although small businesses, defined as businesses employing less than 500 employees, comprise over 99 percent of employers in the United States, employ about half the private sector workforce, and create about two-thirds of net new jobs, and their health is critical to the nation's economy (U.S. Chamber of Commerce and Statistics Research Center 2004), they remain an understudied sector of the national economy. A second, very practical reason for studying SMEs is that control in such firms is more centralized and concentrated at the top of the organization, usually in the person of the CEO. Their centrality increases our confidence in the importance and the role that a manager's gender plays in formulating and implementing market orientation and information technology. Finally, the influx of women as owners and managers is a fairly recent phenomenon and is notably prevalent among the population of retailing and service businesses.

Consistent with the bulk of published research in entrepreneurship (Coviello and Jones 2004; Davidsson 2004), a mail survey was used for data collection. Following Dillman's (1978) recommendations in implementing mail surveys, a sample of 1,083 SMEs in the mid-western United States was randomly selected from a regional Chamber of Commerce mailing list, most of which (80 percent) were in the services sector and small (mean = 23.06, standard deviation (S.D.) = 51.4 employees). A contact letter and two-page questionnaire addressing firm behaviors and characteristics, including market orientation, market performance, financial performance, firm

size, and CEO gender, were mailed to the CEO of each of these firms. Two weeks after the initial letter, a postcard reminder was sent to nonrespondents. This two-phase process yielded a total of 212 (19.6 percent) responses, which is fairly typical of studies that require responses from top managers (Hambrick, Geletkanycz, and Fredrickson 1993) and compares quite favorably with previous studies undertaken to analyze market orientation in the small business sector (cf. Appiah-Adu 1998; Pelham 1997). As noted previously, although the number of women-owned and/or managed businesses has increased substantially in recent years, most of this increase has occurred in the retail and service industries (Center for Women's Business Research 2006). Consequently, we limited this study to those 155 businesses identified as participating in the retail and service sector.

Focal Respondent. The CEO was chosen as the focal subject and "key respondent" because of his/her primary role in developing and implementing strategy, and consistent with expectations that the CEO would possess considerable knowledge about the firm's market orientation and performance (Huber and Power 1985). Although sometimes criticized as being subject to possible bias and distortion (Phillips 1981), key informants have been found to provide generally reliable measures of organizational phenomena (Dess and Robinson 1984; Golden 1992).

Measurement of Variables

There are four key constructs in the conceptual model illustrated in Figure 1 (financial performance, market performance, market orientation, and gender) which required operationalization. The use of primary data as the basis for operationalization of included constructs is consistent with prevailing methodologies evident in the small business and entrepreneurship literature. In their study of methodologies in the mainstream entrepreneurship literature, Chandler and Lyon (2001) found that 75 percent of the empirical papers used primary data, and that 66 percent of the studies used paper surveys, and that 53 percent of the surveys used their own scales or scales modified from other sources. They also reported that 67 percent of the studies had respondents who were business founders or small business owners.

Market and Financial Performance. Publicly available financial data about small firms is largely missing and can be difficult to interpret for a variety of reasons (Covin and Slevin 1989). Therefore, we followed recommendations in the small business literature (Begley and Boyd 1987; Covin and Slevin 1989; Kunkel and Hofer 1993) to use self-reported performance measures, which are viewed as valid and reliable measures of small business performance (Brush and Vanderwerf 1992; Chandler and Hanks 1993). In the present study, respondents compared their firm's market performance with that of their industry using two indicants: market share growth over the past three years and sales growth over the past three years. Respondents performed a similar comparison for financial performance using three indicants: average ROI over the past three years, average profit over the past three years, and profit growth over the past three years. The scale for each of the items was based on a 7-point Likert-type scale that ranged from 1 = "Well below industry average" to 7 = "Well above industry average." A three-year average estimate for performance was used in order to provide a temporal reflection of market positioning and its long-term performance outcome.

Market Orientation. The items used here were selected based on a review of

existing instruments and the findings of research on the validity and reliability of market orientation scales (see Pelham 2000, 1997). For the purposes of this study, the research team developed an 8-item scale, which was adapted from the 22-item MARKOR scale developed by Kohli, Jaworski, and Kumar (1993), to assess the broader concept of market orientation. Similar adaptations have appeared elsewhere in the literature. For example, Pelham and Wilson (1996) used an abbreviated nine-item scale to investigate market orientation in small manufacturing firms. By using a subset of the larger scale, the number of questions in the survey was reduced, potentially reducing respondent fatigue, irritation, and error, important considerations in survey research. Additionally, research suggests that employing adaptations of one or more of the well-established market orientation scales does not adversely impact reported effect size (Langerak 2001a, 2001b). The eight items were listed in random order in the questionnaire. Respondents indicated the extent of their disagreement or agreement on a seven-point Likert-type scale (from "1 = strongly disagree" to "7 = strongly agree"), with each item reflecting market orientation (see Table 1 for the actual wording).

CEO Gender. While some research distinguishes sex (biologically based categories of male and female) based on gender identity (feminine and masculine personality traits) and gender role attitudes (attitudinal differences about the roles, rights and responsibilities of women and men) (Fischer and Arnold 1994, 1990), studies have reported finding that there is little differential explanatory power between it and psychological sex traits in predicting various aspects of behavior (Stern 1988; Settle and Alreck 1987a, 1987b). Consequently, we used biological sex to assess gender. Responses indicating whether the CEO was male or female were coded as a binary variable: female = 0 ($n = 43$ or 28 percent) and male = 1 ($n = 112$ or 72 percent). In comparison, some 2.5 percent of Fortune 1000 firms are led by women (*Fortune Magazine*, April 30, 2007), making small businesses a more fertile ground for assessing gender differences.

Finally, information regarding the number of full-time employees was also gathered as proxy for firm size, which was used as a control variable in the study. The highly skewed distribution led us to use the natural log of firm size in the analyses.

Analysis and Results

Assessment of Measures

The multi-item perceptual measures used in this study were subjected to exploratory and confirmatory factor analyses to assess dimensionality, convergent, and discriminant validity. The initial maximum likelihood exploratory factor analysis, with oblique rotation, of items measuring the three primary constructs of interest (market performance, financial performance, and market orientation), produced three factors with eigenvalues larger than one, that collectively accounted for 65 percent of the variance. The first factor accounted for 37 percent of the variance, which suggests that common method bias may not be a major concern (Podsakoff et al. 2003). The majority of items loaded heavily on the expected factors. After eliminating three items in the market orientation scale due to high cross-loadings on other factors, the analysis was repeated, and a simple structure emerged, accounting for 61 percent of the variance. All items loaded heavily on designated factors.

The remaining 10 items were subjected to confirmatory factor analysis with a three-factor measurement model using the sample covariance matrix as input to LISREL 8.53 (Joreskog and

Table 1
Confirmatory Factor Analysis (ML) of Items and Measurement Properties of the Scales[a]

Scales	Standardized Loading	*t*-value
Market Performance *(α = 0.90, AVE = 0.82, Φ^2 = 0.03–0.52) (well below = 1 to well above = 7 industry average)*		
1. Market share growth over the past three years.	0.87	12.5
2. Sales growth over the past three years.	0.94	13.1
Financial Performance *(α = 0.93, AVE = 0.83, Φ^2 = 0.02–0.52) (well below = 1 to well above = 7 industry avg.)*		
1. Average return on investment over the past three years.	0.84	15.6
2. Average profit over the past three years.	0.95	16.4
3. Profit growth over the past three years.	0.94	16.3
Market Orientation *(α = 0.74, AVE = 0.39, Φ^2 = 0.02–0.03) (SD = 1 to SA = 7)*		
1. We meet customers at least once a year to find out what products or services they will need in the future.	0.68	6.4
2. We collect industry information through informal means (e.g., lunch with friends, talks with trade partners).	0.68	6.3
3. We have meetings at least once a quarter to discuss market trends and developments.	0.60	5.9
4. When something important happens to a major customer or market, the whole business knows about it in a short period.	0.50	5.1
5. If a major competitor were to launch an intensive campaign targeted at our customers, we would implement a response immediately.	0.55	5.5

[a]Model fit statistics: $\chi^2_{32} = 49.26$ ($p = .026$), RMSEA = 0.046, Goodness of Fit Index = 0.95, Normed Fit Index (NFI) = 0.95, Non-Normed NFI = 0.97, Comparative Fit Index = 0.98. The coefficient alpha (α), the average variance extracted (AVE), and the range of squared correlations (Φ^2) between a particular underlying construct with others are presented for each measure.

Sorbom 1993). The results are summarized in Table 1, along with the list of items of the perceptual measures. The model fit statistics, $\chi^2_{32} = 49.26$ [$p = .026$], root mean square error of approximation (RMSEA) = 0.046, Goodness of Fit Index (GFI) = 0.95, Normed Fit Index (NFI) = 0.95, Non-Normed (NFI) = 0.97, and Comparative Fit Index (CFI) = 0.98, suggest that the measurement model shows a good fit to the data.

All factor loadings were significant (*t*-values ranged from 5.1 to 16.4), suggesting convergence of the indicators with the appropriate underlying factors

Table 2
Correlations, Means, and Standard Deviations of Study Variables ($n = 155$)[a]

Variable	1	2	3	4	5
1. Market Performance	1.000				
2. Financial Performance	0.667	1.000			
3. Market Orientation	0.186	0.156	1.000		
4. CEO Gender	−0.087	−0.015	−0.158	1.000	
5. Firm Size	0.095	0.024	0.240	0.183	1.000
Mean	4.51	4.32	4.91	0.73	0.83
Standard Deviation	1.15	1.22	1.21	0.45	0.55

[a]Correlations > |0.15| are significant at the 0.05 level. Gender was recorded as female = 0 and male = 1 (a mean of 0.73 means 73 percent of the sample was male). Size is the natural log of the number of full-time employees (a mean of 0.83 is equivalent to an average of 2.29 full time workers employed by the participating firms). The composite scores for the perceptual variables range from 1 to 7.

(Anderson and Gerbing 1988). As presented in Table 1, the reliability coefficients (coefficient alpha) were well above the level suggested by Nunnally (1978). In addition, comparisons of the average variance extracted (AVE) by each underlying construct with its shared variance (Φ^2) and other constructs indicated that the measures exhibit discriminant validity, since in each case, the AVE was greater than the proportion of the shared variance (Fornell and Larcker 1981).

Collectively, the measures are one-dimensional and reliable, and exhibit convergent and discriminant validity. Scores on scale items were averaged to create composite scores. The correlations, means, and standard deviations of the study variables are provided in Table 2. As shown in Table 2, the means of the three perceptual variables range from 4.32 (financial performance) to 4.91 (market orientation) on a 7-point scale, where 7 indicates well above industry average for market and financial performance, and high degree of market orientation. The relatively small standard deviations (1.15–1.22) indicate that the sample is homogenous with regard to perceptions related to market and financial performance and market orientation. The mean of CEO gender means that 73 percent of the sample was male. Finally, the mean value firm size (0.83) corresponds to an average of 2.29 full-time workers employed by the sample firms.

To validate the characteristics of the sample and ensure that there was no apparent response bias, we compared the self-reported employment data provided by the respondents for a random sample of 30 firms to the same year's quarterly employment data provided by the states' departments of labor statistics for three months prior, the current month, and three months after the survey was completed. In each case, the self-reported data and the state employment data demonstrated correlations at the 0.99 levels, suggesting the respondents provided accurate information within the questionnaire. To test for possible nonresponse bias, a comparison of

Table 3
Effects of Owner/Manager Gender on Market Orientation and Performance Variables: MANCOVA Results (Covariate is firm size, measured as Log of the number of FTE employees)[a]

Study Constructs	CEO Gender	Mean	Standard Deviation	*n*	*p*-value
Market Performance	Female	4.68	1.09	43	0.141
	Male	4.46	1.21	112	
	Total	4.53	1.17	155	
Financial Performance	Female	4.31	1.35	43	0.796
	Male	4.27	1.23	112	
	Total	4.29	1.27	155	
Market Orientation	Female	5.23	1.14	43	0.004
	Male	4.78	1.31	112	
	Total	4.93	1.27	155	

[a]The overall multivariate test result is significant for Gender (Wilks' $\Lambda = 0.936$, $p = 0.014$). However, pairwise comparisons, using Bonferroni tests, reveal that gender differences are statistically significant only in the case of Market Orientation as indicated by the *p*-values in the table. The overall test also indicates that the covariate (firm size) has a significant impact on Market Orientation (Wilks' $\Lambda = 0.907$, $p = 0.01$), but it has no significant influence on Market Performance or Financial Performance.

MANCOVA, multivariate analysis of covariance; FTE, full time equivalent.

early and late respondents was conducted on a number of key characteristics. No significant differences were revealed at the 0.05 level (Armstrong and Overton 1977).

Testing the Research Hypotheses

The hypotheses regarding the direct effects of gender on performance (H1a and H1b) and market orientation (H2) were tested simultaneously within an analysis of variance framework. Since the dependent variables (market performance, financial performance, and market orientation) are expected to correlate with each other, and firm size (measured as the number of full-time employees) might influence each one of the dependent variables, a multivariate analysis of covariance (MANCOVA) was conducted. CEO gender was used as the independent variable, and firm size was included as the covariate to control for the effects of size differences among the sampled firms.

The results of the MANCOVA are summarized in Table 3. The sample means in Table 3 indicate that female-led firms modestly outperform those that are male led on both market performance and financial performance. However, these differences are not statistically significant for market performance ($p = .141$) and financial performance ($p = .796$). Therefore, H1a and H1b are not supported. On the other hand, the results show that female-led firms are significantly more market oriented than male-led firms ($p = .004$). This result provides support for H2.

Table 4
Path Analysis Results[a]

Estimates and Fit Statistics	Standardized Estimate	*t*-Value	R^2
Direct Effects			
CEO Gender → Market Orientation	−0.21	−2.7	
Size → Market Orientation	0.27	3.5	0.10
Market Orientation → Market Performance	0.24	2.9	0.06
Market Performance → Financial Performance	0.69	10.7	0.43
Indirect Effects			
CEO Gender → Market Performance	−0.05	−2.0	
CEO Gender → Financial Performance	−0.03	−1.9	
Size → Market Performance	0.07	2.2	
Size → Financial Performance	0.06	1.1	
Goodness-of-Fit Statistics	$\chi^2_3 = 2.48$ ($p = .48$), RMSEA = 0.00, SRMR = 0.019, NFI = 0.98,		

Non-Normed Fit Index (NFI) = 1.00, Comparative Fit Index = 1.00.
[a]Initially the model in Figure 1 was tested as a saturated model. The results in this table are obtained after nonsignificant paths were constrained to 0.
RMSEA, root mean square error of approximation; SRMR, Standardized Root Mean Square Residual.

To examine the potential indirect effects of gender on market performance and financial performance (H3), the model in Figure 1 was tested using the sample covariance matrix as input to LISREL 8.5 (Joreskog and Sorbom 1993). The results are presented in Table 4. The model fit was excellent based on various fit statistics, $\chi^2_3 = 2.48$ ($p = .48$), RMSEA = 0.00, Standardized Root Mean Square Residual = 0.019, NFI = 0.98, NNFI = 1.00, CFI = 1.00.

An examination of the results in Table 4 indicates that gender has a significant negative effect on market orientation ($\beta = -0.21$, $t = 2.7$), which means that female-led firms are more market oriented. This result is consistent with the MANCOVA results. More importantly, its indirect effects, through market orientation, on both market performance ($\beta = -0.05$, $t = -2.0$) and financial performance ($\beta = -0.03$, $t = -1.9$), are significant. As such, while gender does not have significant direct effects on performance variables, its indirect effects are significant, indicating that female-led service SMEs perform significantly better due to their stronger market orientation compared to male-led SMEs. Interestingly, the MANCOVA results and path analysis results are consistent in that both results indicated that CEO gender does not have a significant direct influence on market and financial performance variables. However, MANCOVA cannot address the indirect effects of CEO gender, through the mediating role of market orientation, on performance variables. Hence, path analysis and MANCOVA provided complementary insights in that regard. Collectively, these results support H3.

Consistent with the MANCOVA results, firm size shows a significant direct positive effect on market orienta-

tion ($\beta = 0.27$, $t = 3.5$). While firm size does not show significant direct effects on market or financial performance, its indirect effect on market performance (through market orientation) is significant ($\beta = 0.07$, $t = 2.2$).

Discussion

The results of this study contribute to our understanding of gender, market orientation, and performance in the context of SMEs. Previously, we argued that gender may be critical in driving the emphasis placed on market orientation and in moderating its relationship to performance. We can summarize our key findings thusly: (1) H1a and H1b, respectively, argue that gender will be positively associated with measures of company financial and market performance. Clearly, the statistical analyses presented in Table 3 do not support these contentions. So, although there is a pattern of slightly higher performance among female-led firms, the differences are not significant, indicating that gender does not significantly affect performance, at least directly. (2) H2 argues that a CEO's gender matters, proposing that female managers will place a greater emphasis on market orientation than male managers. The analyses shown in Table 3 support this contention, revealing that female-led firms are significantly more market oriented than male-led firms, thus supporting H2. Finally, H3 proposes that CEO gender will have a significant indirect effect, mediated by market orientation, on market and financial performance. The results shown in Table 4 lead us to conclude that the effects of gender on performance indeed are indirect, with female-led service SMEs performing significantly better due to their stronger emphasis on market orientation compared to their male-led counterparts.

The present study is important in a number of respects. First, this study contributes the first empirical evidence of some form of association between gender, market orientation, and performance among small service businesses. Second, the results challenge prevailing research regarding the effects of gender on performance, showing that these effects are indirect rather than direct. This finding may help in explaining why previous efforts have failed to find differences in performance outcomes across genders. Clearly, the most interesting result of the study stems from evidence that while women-led firms perform neither significantly better nor worse than those led by men, a finding consistent with that of other studies (cites), performance differences emerge because of the relative emphasis each gender tends to place on market orientation, which then impacts performance. Consequently, the impact of gender on performance is unlikely to be directly observed, and more likely to be observed through strategic behaviors (Watson 2002).

An important implication of the results is the idea that men and women approach issues differently, a notion that has generated much speculation in studies of entrepreneurship and in related subdisciplines, including family business (Brush 1992; Watson 2002). Although little empirical research has been conducted in this area, our findings that gender influences the degree of emphasis that managers place on market-oriented behaviors is certainly worthy of further investigation as to why they differ. For example, there has been much speculation in the literature that women have a lower preference for risk than men (Hudgens and Fatkin 1985; Johnson and Powell 1994; Levin, Snyder, and Chapman 1988; Sexton and Bowman-Upton 1990). Recent studies in marketing suggest that a manager's choice of market orientation may result from a perception that it is an incremental, "safe" form of adaptability (Atuahene-Gima and Ko 2001). Research could establish whether

attitudes toward risk, which has been associated with gender, are driving the emphasis on market orientation observed here.

Ultimately, the most interesting difference we found between female-led and male-led firms was that market orientation has a stronger relationship to market performance when the involved SME is led by a female than when it is led by a male. An obvious management opportunity exists when the differential sensitivity—evident in buyer behavior—to all or particular appeals and their associated characteristics—for example, market orientation—depends on the gender of the provider. What is not evident in our study is whether these gender effects are monotonic over the relevant range for a given orientation. To answer this question, future researchers may want to delve deeper into the relationships revealed here. For example, Aldrich (1989) suggested that women entrepreneurs tend to form a larger number of strong relational ties than men. He viewed this as a possible disadvantage as "a woman entrepreneur risks spending (too) much of her time on relationship matters rather than business ones" (p. 121). Consequently, while underinvesting in a market orientation may not allow the firm to reach its performance potential, there is a compelling case for arguing that managers in general, and women in particular, could overinvest in building relationships with customers (whether via market orientation or some other mechanism), with potentially deleterious consequences for performance. This possibility certainly deserves investigation. Of course, the discussion may hinge on the extent to which the CEO may or may not have the opportunity to signal to customers—perhaps they have a manager that signals differently than the CEO. Given the small size of the firms that were the focus of the current study, this may not be an issue, yet it could become one as the firm grows as the result of the successful implementation of its chosen strategic orientation.

Our results suggest that a manager's gender may provide important cues for customers and employees that signal the manager's preferences regarding the quality of market and service experience; that is, its market orientation. An information asymmetry exists between buyers and sellers such that even if sellers seek market orientation as a means of developing market relationships with buyers, the buyers themselves may be uncertain about the sincerity of the seller's efforts. It is natural that buyers look for some signals, perhaps including managers' demographic characteristics, including gender, to help redress the information imbalance. In the case of the small businesses examined here, it may be that upper-echelons theorists are correct in contending that demographic characteristics, including the gender of key managers, are informationally symbolic capital. If so, then manager gender may be processed by the buyer as part of her/his decision-making process. If this logic is correct, then an association between feminine characteristics and relationship building may make the managers' gender instrumental in signaling to the customer the likelihood that the seller provides service offerings tailored to fit a market segment's specific tastes and preferences, the defining characteristic of a market orientation (Jaworski and Kohli 1993; Kohli and Jaworski 1990).

We view our findings as providing sufficient evidence to warrant the inclusion of gender effects in future studies. Some suggestions for putting a gender-centered approach into place include the development of more complete conceptual and empirical models that might involve measurement of intervening variables, such as risk-taking propensity, and examining these linkages across a larger, more random sample of a more repre-

sentative group of SMEs, and entrepreneurial ventures, are building blocks toward developing a framework that could advance the knowledge base of entrepreneurship research by enabling scholars to better comprehend and leverage existing theories.

Since the results of this study suggest a positive link between market orientation and performance outcomes, both male and female managers of small service businesses may want to compare their firm's level of market orientation with those exhibited by high-performing firms in our sample. Being market oriented begins with top management's commitment to and focus on market-oriented behaviors. To some extent, market-oriented activity can be enhanced by the manipulation of certain behaviors. The market orientation items used here may suggest areas on which to focus attention or to extend additional effort. Managers may want to consider implementing systems, such as reward systems that are focused on customer satisfaction, that contribute to the successful implementation of a market orientation. Conversely, managers need to be alert to factors such as interdepartmental conflict that may hinder market-oriented activity.

It is important to note that we examined gender largely based on an inferred association between a person's orientation toward relationships and the development of a market orientation. One reason to exercise caution is our use of biological sex as our sole indicator of gender while ignoring alternative conceptualizations of psychological and attitudinal differences stemming from learned gender roles (Fischer and Arnold 1994). An opportunity exists for future researchers to extend our results by reference to prevalent theoretical rationales that might explain gender differences, such as biological determinism and differential socialization (Kimmel 2000) and feminist theory (Greene et al. 2003). While ostensibly, our approach raises questions about gender role stereotypes, we note that the "relational" stereotype with which we were concerned here is not mere conjecture, but is backed by empirical evidence of women exhibiting greater relational orientation (Riger and Gilligan 1980) in management, as well as in marketing and sales (Lane 2000), all of which lend additional credence to the study's findings.

While we believe our study offers important theoretical and practical insights regarding effects of gender and market orientation in SMEs, we should be careful not to overgeneralize from our results. Numerous studies have linked application of a market orientation to enhanced company performance. While it appears that women in general are more likely than men to emphasize a market orientation, this should not be taken to imply that every female leader will or that every man will not. It is likely that male leaders can shift toward emphasizing a market orientation built on relationships, just as women can cultivate a more directive task-orientation way of leading when the situation requires, as suggested by the contingency model of leadership effectiveness (see Fiedler 1967).

Finally, we note a need for further investigations to confirm the study's findings in other settings using more sophisticated methodologies and theoretical models. For instance, due to the study's sampling frame of small and medium-sized service firms in the middle United States, the generalizability of its results is limited to this universe. Concerns over the length of the questionnaire limited the ability to explore alternative conceptualizations of the market orientation construct such as that proposed by Narver and Slater (1990). Also, the nature of the sample meant that the study relied heavily on perceptual measures of market orientation and performance, which raises the possibility of cognitive biases (Tversky and Kahneman 1974). To

the extent possible, future studies should utilize samples of small publicly owned firms in order to operationalize included constructs and variables using archival data and also to extend the findings beyond the settings studied here.

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