The Effect of Leadership and Entrepreneurial Orientation of Small and Medium Enterprises on Business Performance in Taiwan

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ABSTRACT

Leadership and entrepreneurship are critical concepts in academic research. Different leadership styles affect effectiveness and performance; entrepreneurial orientation is a significant concept in entrepreneurship literature. This study sought to examine how leadership can affect the development and implementation of entrepreneurial orientation in small and medium enterprises in Taiwan. It also was designed to examine the effects of entrepreneurial orientation, leadership styles, and outcomes of leadership on business performance. Significant conclusions from this study were that different leadership styles may affect business performance; and that transformational leadership with higher entrepreneurial orientation can contribute to higher business performance.

INTRODUCTION

Leadership is the art of influencing others (De Pree, 2004). Today's organizations need effective leaders who understand the complexities of the rapidly changing global environment (Nahavandi, 2002). Hence, an effective leader influences followers in a desired manner to achieve desired goals. Leadership style is the “relatively consistent pattern of behavior that characterizes a leader” (DuBrin, 2001, p. 121). Different leadership styles may affect organizational effectiveness or performance.

The world has developed into an entrepreneurial economy; the creation of new ventures is at the center of activity. Entrepreneurs have become the heroes of economic development and contemporary enterprises (Sathe, 2003). Entrepreneurial orientation is a commonly used measure in the literature (Morris & Kuratko, 2002). This concept is the presence of organizational-level entrepreneurship (Wiklund & Shepherd, 2005).

Leadership and entrepreneurship are critical concepts in academic research. Leadership is considered a mature field (Hunt & Dodge, 2000); entrepreneurship is a relatively young field (Hitt & Ireland, 2000). The two, however, are interconnected (Colbert, 2003). Vecchio (2003) assumed that entrepreneurship is merely leadership in a special context. Cunningham and Lischeron (1991) indicated that an entrepreneur is often a leader; an entrepreneur must possess leadership skills to be successful.

Some researchers have tried to combine entrepreneurship with leadership into a new form of leadership called entrepreneurial leadership. This new leadership model has been used to show both entrepreneurship and leadership behavior (McGrath & MacMillan, 2000; Tarabishy et al., 2005). In the dynamic, complex, and uncertain competitive environment, a type of entrepreneurial leader who is distinct from the behavioral form of leaders is needed (Cohen, 2004; Tarabishy et al., 2005).

Small and medium enterprises (SMEs) exert a strong influence on the economies of all countries, particularly in the fast-changing and increasingly competitive global market (Ladzani & Van Vuuren, 2002). This study focused on top-level managers of SMEs in Taiwan who are identified as the CEOs, owners, founders, managers, presidents, or heads of SMEs.

The study was designed to examine how leadership can affect the development and implementation of entrepreneurial orientation in SMEs in Taiwan. It also was designed to examine the effects of entrepreneurial orientation, leadership styles, and outcomes of leadership on business performance. Thornberry (2006) stated that “entrepreneurial leadership is more like transformational leadership than it is like transactional leadership, yet it differs in some fundamental ways” (p. 24). The researcher used the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995) to measure top-level managers’ transformational leadership, transactional leadership, passive-avoidant leadership, and
outcomes of leadership. Furthermore, because entrepreneurial orientation is a critical concept in entrepreneurship literature, the researcher used the Entrepreneurial Orientation Questionnaire (EOQ; Covin & Slevin, 1989) to measure entrepreneurial orientation of SMEs in Taiwan.

**LITERATURE REVIEW**

**Transformational and Transactional Leadership**

Transformational and transactional leadership are not viewed as opposing leadership styles (Seltzer & Bass, 1990). Leaders can be both transformational and transactional (Lowe et al., 1996). In general, transformational leadership is more effective than transactional leadership (Gardner & Stough, 2002). Some researchers have found data supporting the conclusion that transformational leadership is superior to transactional leadership. Transformational leadership is more strongly correlated than transactional leadership with higher productivity and performance (Lowe et al., 1996), higher level of organizational culture (Block, 2003), and higher level of emotional intelligence (Gardner & Stough, 2002; Yammarino & Dubinsky, 1994). This study used the MLQ to measure top-level managers’ leadership styles.

**Entrepreneurial Leadership**

Some researchers tried to combine the two concepts into entrepreneurial leadership to explore both entrepreneurship and leadership behavior (Gupta et al., 2004; McGrath & MacMillan, 2000; Tarabishy et al., 2005). Entrepreneurial leadership is understandable because of the uncharted and unprecedented territory that lies ahead for businesses in today's dynamic markets (Tarabishy et al., 2005). This study explored the idea of entrepreneurial leadership, which is viewed to be more transformational than transactional in nature but with some fundamental differences (Thornberry, 2006).

**Entrepreneurial Orientation**

Entrepreneurial orientation is a commonly used measure in entrepreneurship literature. Entrepreneurial orientation is the presence of organizational-level entrepreneurship (Wiklund & Shepherd, 2005). The Entrepreneurial Orientation Questionnaire (Covin & Slevin, 1989) is the most widely utilized instrument for measuring this orientation. It was developed by Covin and Slevin (1989), based on the earlier study of Khandwalla (1976/1977) and Miller and Friesen (1982). Several researchers have agreed that entrepreneurial orientation could be explained by innovation, proactiveness, and risk taking (Wiklund, 1999). The assumption of entrepreneurial orientation is that entrepreneurial businesses differ from other types of businesses. Successful corporate entrepreneurship must have an entrepreneurial orientation. This study compared three dimensions of the entrepreneurial orientation and the total entrepreneurial orientation with other variables.

**Business Performance**

Business performance is a multidimensional construct (Wiklund & Shepherd, 2005). Previous studies have often used self-reports to gather business performance data, and these results have proven to be reliable (Dess et al., 1997; Knight, 2000). Wiklund (1999) suggested that performance measures should include both growth and financial performance. Furthermore, public information is unreliable because most SMEs are privately held and have no legal obligation to disclose information. Respondents may be reluctant to provide actual financial data (Tse et al., 2004). Hence, this study used subjective, self-reported measures of business performance including growth and financial performance. The business performance scale was developed by the research according to suggestions of previous studies.

**METHODOLOGY**

**Research Design**

This study used a quantitative correlational research method to examine the relationship among leadership styles,
outcomes of leadership, and the entrepreneurial orientation of SMEs in Taiwan as well as their effects on business performance. This study used a sample of top-level managers from SMEs in Taiwan. SMEs represent a major part of most modern economies. According to the White Paper on Small and Medium Enterprises in Taiwan, 2006 (Taiwan Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2006), SMEs account for 97.8% of all businesses in Taiwan. This study focused on SMEs to control for organizational size.

**Research Questions**

The study started with the assumption that different leadership styles affect entrepreneurial orientation, outcomes of leadership, and business performance. It also was assumed that SMEs with higher levels of entrepreneurial orientation have higher business performance. The three main research questions were as follow:

**Question 1:** What is the relationship between a set of the top-level managers’ leadership styles (transformational leadership, transactional leadership, and passive-avoidant leadership) and a set of the three dimensions of entrepreneurial orientation (innovation, proactiveness, and risk-taking) of SMEs in Taiwan?

**Question 2:** Do the top-level managers' leadership styles (transformational leadership, transactional leadership, and passive-avoidant leadership) and entrepreneurial orientation of SMEs in Taiwan (innovation, proactiveness, and risk-taking) predict business performance?

**Question 3:** What is the association among transformational leadership, higher entrepreneurial orientation, and higher business performance?

**Instrumentation**

Three survey instruments were used. The first was the Multifactor Leadership Questionnaire (MLQ), which was used to measure top-level managers’ leadership style (transformational, transactional, and passive-avoidant) and outcomes of leadership. The MLQ Leader 5X short form consists of 45 items that measure aspects of transformational leadership (attributed charisma, idealized influence, inspirational motivation, individualized stimulation, and intellectual consideration), transactional leadership (contingent reward and management-by-exception: active), and passive-avoidant leadership (management-by-exception: passive and laissez-faire leadership). The MLQ also was used to measure three dimensions of leadership outcomes (extra effort, effectiveness, and satisfaction) on a 5-point scale.

The second assessment tool was the Entrepreneurial Orientation Questionnaire (EOQ), the most widely utilized instrument for measuring entrepreneurial orientation. The EOQ, which contains nine items and uses a 7-point scale, measures three dimensions of entrepreneurial orientation (innovation, proactiveness, and risk-taking). It is used to assess three components of entrepreneurial orientation, with three items measuring innovation, three items measuring proactiveness, and three items measuring risk-taking.

The third assessment tool was a business performance scale developed by the researcher according to the suggestions of previous studies; it included four indicators of growth, three indicators of financial performance, and one indicator of total business performance. The scale contains eight items and uses a 7-point Likert-type scale. Four indicators of growth were utilized: sales growth, employment growth, sales growth compared to competitors, and market share growth compared to competitors. The three financial performance indicators were gross profit, return on assets (ROA), and return on investment (ROI). In addition, the researcher used an indicator of “overall performance/success” to business performance (Dess et al., 1997; Lumpkin & Dess, 1996).

**Sampling**

A sample should be large enough to provide a credible result (McMillan & Schumacher, 2001). Gay and Airasian (2003) said that, when the population size is about 5,000 or more, a sample size of 400 should be adequate (p. 113). Furthermore, because the similar studies in Taiwan reported the low response rate for mailed surveys, the researcher randomly selected 3,000 top-level managers of SMEs in Taiwan through the 2006 Directories of Corporations (CD version; China Credit Information Service, 2006). Questionnaires were delivered to 3,000 top-level managers via post service. Of these, 449 questionnaires were returned, but 26 surveys were not usable because they were incomplete.

The 423 usable surveys were examined for accuracy of data entry, non-response bias, missing values, reliability,
and validity. None of the nine variables—transformational leadership, transactional leadership, passive-avoidant leadership, outcomes of leadership, innovation, proactiveness, risk-taking, total entrepreneurial orientation, and total business performance—violated the assumption of normality. Finally, 17 surveys were deleted due to outliers, so 406 surveys without missing data remained for analysis.

The Cronbach’s alpha coefficients of the MLQ ranged from .79 to .90. The Cronbach’s alpha coefficients of the EOQ ranged from .78 to .84; the overall Cronbach’s alpha coefficient of the EOQ was .87. The Cronbach’s alpha coefficient of the business performance was .91. All the coefficients were greater than .70, exceeding the recommended minimum level of .7 (Nunnally, 1978). This ensured that these three scales had a very satisfactory degree of reliability. The results concerning evidence of reliability were consistent with previous studies involving two of the instruments used in this study: the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995) and the Entrepreneurial Orientation Questionnaire (EOQ; Covin & Slevin, 1989). The business performance scale also showed high reliability and inter-item correlations.

DATA ANALYSIS

Canonical Correlation

A canonical correlation was performed between a set of MLQ variables and a set of EOQ variables. The MLQ set included transformational leadership, transactional leadership, and passive-avoidant leadership. The EOQ set measured innovation, proactiveness, and risk-taking. Two within-set multivariate outliers among the cases were found in cases 212 and 403 at p < .001. After deleting these outliers, 404 cases remained for analysis.

The first canonical correlation was .27 (7.3% overlapping variance). Figure 1 shows the loadings and canonical correlations for leadership styles and entrepreneurial orientation. The remaining two canonical correlations were effectively zero. With all three canonical correlations included $\chi^2 (9) = 35.59$ and $p < .001$. Subsequent Chi-square tests were not statistically significant. Therefore, the first pair of canonical variates accounted for the significant relationships between the two sets of variables. Table 1 shows the first pair of canonical variates.

The first canonical variate extracted 38% of the variance in the set of leadership styles and 63% of the variance in the set of entrepreneurial orientation. Moreover, 3% of the variance in the set of leadership styles was explained by the set of entrepreneurial orientation; 4% of the variance in the set of entrepreneurial orientation was explained by the set of leadership styles.

**Figure 1. Loadings and canonical correlations for leadership styles and entrepreneurial orientation.**

*Note.* TF = Transformational Leadership; TA = Transactional Leadership; PA = Passive-Avoidant Leadership; Inn = Innovation; Pro = Proactiveness; Risk = Risk-taking.

With a cutoff correlation of .3 (Tabachnick & Fidell, 2001), the variables in the MLQ set that were correlated with the first canonical variate were transformational leadership and transactional leadership. Among the EOQ variables, innovation, proactiveness, and risk-taking correlated with the first canonical variate. The first pair of canonical variates indicate that those with transformational leadership (-.97) and transactional leadership (-.45) were associated with innovation (-.84), proactiveness (-.93), and risk-taking (-.57)
Leadership Styles and Entrepreneurial Orientation to Business Performance

A standard multiple regression was performed with the leadership styles (transformational leadership, transactional leadership, and passive-avoidant leadership) and entrepreneurial orientation as the dependent variables and scores on entrepreneurial orientation (innovation, proactiveness, and risk-taking) of SMEs in Taiwan as the independent variables. An analysis for evaluation of assumptions was performed to reduce the number of outliers and improve the normality, linearity, and homoscedasticity of residuals. With the use of \( p < .001 \) criterion for Mahalanobis distance, two multivariate outliers were found (cases 212 and 403). After deleting these outliers, 404 cases without missing data remained for analysis. A residual analysis was conducted to check assumptions. To check the scatterplot of the standardized residuals and the normal probability plot, assumptions about residuals were met. Table 2 shows the correlations between the variables, unstandardized regression coefficients \((B)\), and standardized regression coefficients \((\beta)\).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation</th>
<th>Canonical Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLQ–Transformational</td>
<td>-0.97</td>
<td>-2.43</td>
</tr>
<tr>
<td>MLQ–Transactional</td>
<td>-0.45</td>
<td>-0.66</td>
</tr>
<tr>
<td>MLQ–Passive-Avoidant</td>
<td>0.06</td>
<td>-0.04</td>
</tr>
<tr>
<td>EO–Innovation</td>
<td>-0.84</td>
<td>-0.36</td>
</tr>
<tr>
<td>EO–Proactiveness</td>
<td>-0.93</td>
<td>-0.55</td>
</tr>
<tr>
<td>EO–Risk-taking</td>
<td>-0.57</td>
<td>-0.03</td>
</tr>
</tbody>
</table>

This regression model was significantly different from zero, \( F (6, 397) = 14.35 \) and \( p < .001 \). For the four regression coefficients that differed significantly from zero, 95% confidence limits were calculated. The confidence limits for transformational leadership were \(.07 \) to \(.57 \); those for passive-avoidant leadership were \(-.30 \) to \(-.01 \); those for innovation were \(.04 \) to \(.22 \); those for proactiveness were \(.04 \) to \(.24 \). Four of the independent variables contributed significantly to prediction of business performance: transformational leadership \((sr^2 = .013)\), passive-avoidant leadership \((sr^2 = .01)\), innovation \((sr^2 = .017)\), and proactiveness \((sr^2 = .014)\). Altogether, 16.6% \((\text{adjusted } R^2)\) of the variability in business performance was predicted by MLQ and EO scores on these six independent variables.

Log-Linear Analysis

The researcher divided transformational leadership into two groups by the largest score of transformational leadership among the three dimensions of the MLQ (transformational leadership, transactional leadership, and passive-avoidant leadership): transformational leadership and non-transformational leadership. The researcher divided total entrepreneurial orientation into two categories by its mean \((M = 4.43)\): higher entrepreneurial orientation and lower entrepreneurial orientation. The researcher divided business performance into two categories by its mean \((M = 4.32)\):
higher business performance and lower business performance.

A three-way frequency analysis was performed to develop a hierarchical log-linear model of transformational leadership, entrepreneurial orientation, and business performance. Dichotomous variables analyzed were (a) transformational leadership, (b) higher entrepreneurial orientation, and (c) higher business performance. All two-way contingency tables provided expected frequencies in excess of 5. After the model was selected, none of the eight cells was an outlier (see Table 3). As shown in Table 4, stepwise selection by simple deletion of effects using SPSS HILOLINEAR produced a model that included two possible two-way associations.

The model had a likelihood ration, $\chi^2 (2) = 2.05$ and $p = .34$. This indicated that a good fit between the observed frequencies, and the expected frequencies was generated by the model. No standardized residuals were greater than $z = .87 < 4$. The interaction between higher entrepreneurial orientation and higher business performance was significant, $\chi^2 (1) = 25.85$ and $p < .001$; the interaction between transformational leadership and higher entrepreneurial orientation was significant, $\chi^2 (1) = 3.84$ and $p = .049$. 68.0% of the higher business performance cases had higher entrepreneurial orientation while 42.5% of the lower business performance cases also had higher entrepreneurial orientation. 83.0% of the higher business performance cases were related to transformational leadership while 74% of lower business performance case also was related to transformational leadership.

### Table 3. Observed Frequencies and Percentages for Transformational Leadership, Higher Entrepreneurial Orientation, and Business Performance (N = 406)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Lower Business Performance</th>
<th>Higher Business Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformation Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Entrepreneurial Orientation</td>
<td>81 (20%)</td>
<td>67 (17%)</td>
</tr>
<tr>
<td>Higher Entrepreneurial Orientation</td>
<td>56 (13%)</td>
<td>115 (28%)</td>
</tr>
<tr>
<td>Non-Transformation Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Entrepreneurial Orientation</td>
<td>34 (8%)</td>
<td>18 (4%)</td>
</tr>
<tr>
<td>Higher Entrepreneurial Orientation</td>
<td>10 (2%)</td>
<td>25 (6%)</td>
</tr>
</tbody>
</table>

### Table 4. Log-Linear Parameter Estimates, Values, and Goodness-of-Fit Index for Transformational Leadership, Entrepreneurial Orientation, and Business Performance

<table>
<thead>
<tr>
<th>Effect</th>
<th>Coefficient</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Entrepreneurial Orientation × Higher Business Performance</td>
<td>.30</td>
<td>4.64***</td>
</tr>
<tr>
<td>Transformational Leadership × Higher Business Performance</td>
<td>.13</td>
<td>2.00*</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>-.67</td>
<td>-10.27***</td>
</tr>
<tr>
<td>Higher Entrepreneurial Orientation</td>
<td>-.10</td>
<td>-1.52*</td>
</tr>
<tr>
<td>Higher Business Performance</td>
<td>.09</td>
<td>1.34</td>
</tr>
</tbody>
</table>

*Note. $G^2 (2, N = 406) = 2.05, p = .34 > .05, *p < .05, ***p < .001.*

**CONCLUSION**

This study sought to contribute to the knowledge of leadership styles and entrepreneurial orientation at small and medium enterprises (SMEs) in Taiwan as well as their effects on business performance. Significant conclusions from this study are that different leadership styles may affect performance, transformational leadership is significantly more correlated to the three major variables than transactional leadership and passive-avoidant leadership, and transformational leadership with higher entrepreneurial orientation can contribute to higher business performance.

By gaining knowledge about leadership and entrepreneurship, top-level managers of SMEs can understand how different leadership styles and entrepreneurial orientation affect business performance. This study showed that transformational leadership was more strongly correlated with higher entrepreneurial orientation, higher outcomes of leadership, and higher business performance than transactional leadership or passive-avoidant leadership. Building on this relationship, top-level managers of SMEs might do well to learn and apply transformational leadership behaviors.

Entrepreneurial orientation was positively related to business performance; generally, entrepreneurial orientation
contributed to improved business performance in this study. Entrepreneurial orientation plays a critical role in organizational-level entrepreneurship. Top-level managers can benefit from being innovative and proactive and showing a higher degree of entrepreneurial orientation in their companies. In addition, transformational leadership and higher entrepreneurial orientation contributed to higher business performance in this study. Top-level managers of SMEs might learn and apply transformational leadership behaviors and concepts of entrepreneurial orientation.

Transformational leadership has been recognized as an effective leadership style. Different leadership styles affect business performance. Today’s organizations need effective leaders who understand the complexities of the rapidly changing global environment (Nahavandi, 2002). This study supports the idea of entrepreneurial leadership, which is viewed to be more transformational than transactional in nature but with some fundamental differences (Thornberry, 2006). Future research should examine the relationship between leadership and entrepreneurship as well as the effectiveness of entrepreneurial leadership.

REFERENCES


