

Dimensionality and Performance Effects of Social Networking in Small Businesses¹

Gerard George

Department of Management
School of Business
Virginia Commonwealth University
Richmond, VA 23284-4000

Voice: (804) 828-7163

Fax: (804) 828-1602

E-mail: mgt4gxg@atlas.vcu.edu

D. Robley Wood Jr.

George W. Rimler

Virginia Commonwealth University

Philip R. Sturm

Mary Baldwin College

¹ This project was supported by the Durrell Foundation, Virginia

Abstract

Research in family business tends to concentrate on the founder and CEO but rarely discusses the importance of the board members in business development. It is the primary contention of this paper that social networks of small business board members have strong performance and growth implications. Analysis of 73 community bank CEO responses indicates that firms that use their board's networks show higher ROA, ROE, and asset increase.

Introduction

In the resource-based view, competitive advantage is created and sustained due to 'distinct competencies' that facilitate a firm to deploy a value creating strategy that cannot be perfectly imitated by its rivals (Barney, 1986, 1991). A network is a set of people tied together by work, friendship, influence, or communication relations (Knoke & Kulinski, 1982) and can be classified as a systemic resource (Miller & Shamsie, 1996). This paper considers social networking to be a competence enhancing activity that creates and sustains competitive advantage.

Networking has traditionally been treated as falling within the purview of organizational behavior and organization theory (Lincoln 1982; McElroy & Shrader, 1986). Research on networks has been extensive, including its effects on: (1) performance (Pearce & David, 1983), (2) leadership and attribution processes (McElroy & Shrader, 1986), (3) power and social influence (Ibarra, 1993a), and (4) innovation (Ibarra, 1993b). Not till recently has the role of networks been viewed within a strategic context (Hall, 1992; Lado & Wilson 1994; Ostgaard and Birley 1994). Though network analysis literature has tended to focus inside the organization, this

paper seeks to highlight the strategic importance of external social networking (i.e. ties with people external to the organization).

Research on the board of directors has been exhaustive. Areas studied include (1) the use of boards to secure resources, increase prestige, and legitimacy (Pearce & Zahra, 1992; Pfeffer, 1992), (2) effects of board constitution on governance decisions and mechanisms (Rediker & Seth, 1995; Singh & Harianto, 1989), and (3) board structure and strategic functions (Goodstein, Gautam & Boeker, 1994; Pearce & Zahra, 1991). The strategic role of the board, beyond acquiring resources or representing stakeholder interests, involve taking important decisions that help the organization to adapt to environmental changes (Pearce & Zahra, 1991; Mintzberg, 1983).

Largely ignored is the role of small business boards from a social networking perspective. Boards that have strong external network ties with other boards and other organizations increase their chance of receiving new information and gaining new insights to help solve non-routine challenges. Small business board members with quality networks are therefore exposed to information that may augment their skills and competence to fulfill their strategic function. It is the purpose of this research note to show that social networking activity of board members can be an important strategy to gain competitive advantage and increase firm performance.

In a study of social networks, Carroll and Teo (1996) compared social networks and core discussion groups of managers and non-managers. They found that the network characteristics, size, and closeness of ties of managers significantly differed from non-managers. However, they did not test for effects of networking on job performance. Social networking plays an important role in the entrepreneurial process of setting up a business (Birley, 1985; Hansen, 1995; Starr & MacMillan, 1990) and the quality and content of their networks differ according to the firm's competitive strategy (Ostgaard & Birley, 1994). Entrepreneurial firms can gain a competitive edge by means of closely integrated networking arrangements with strategic customers and suppliers (Larson, 1990). Studies have only considered 'networking propensity' as participation in professional and service organizations and have largely ignored the potential benefits of cross-board membership (Carroll & Teo, 1996; Ostgaard & Birley, 1994). Our review of literature did not turn up any studies that compared social networking practices of small business board members and its impact on firm performance.

Top management (CEO and Board) as a rent generating resource has been largely untested in strategy literature (Castanias & Helfat, 1991). The relatively uncharted territory makes it more exciting to study the performance effects of a board's networking activity. Boards that have strong networks are likely to have access to information that may help in performing their strategic functions. Apart from information access, board members may develop contacts that mature into new customers or new suppliers that eventually help the firm's performance. Firms that actively pursue a strategy that encourages social networking practices of board members are therefore likely to increase their performance. The arguments outlined above suggest a positive relationship between the board's propensity to network and firm performance.

H₁: There is a positive relationship between a board's social networking propensity and performance of small businesses

Methods

Sample

The study is conducted in the banking industry. This study is unique in that it considers community bankers rather than the larger banks that have holding companies and multilevel boards which would confound and complicate data analysis. Studies in the banking industry are usually restricted to larger banks (James & Hatten, 1995; Mehra, 1996). However, the present study would be better suited by the use of smaller community banks primarily due to their relatively simple board structure and ownership characteristics. The community banks, in general are small businesses, have a single board and tend to cater to local community customers making it relatively easier to study coalitions (Pearce, 1995) or in this case, networking practices.

A mail survey was used to obtain information on the board's propensity to network and the perception of utility of such networks. The content of the survey questionnaire was finalized after interviews with two CEOs, one board member, and two executives of the bankers association. The questionnaire was endorsed by the Virginia Bankers Association and mailed to the CEOs of all community banks in Virginia (total of 133). Samples for studies on boards of directors that require questionnaire responses tend to be small (Boyd & Fulk, 1996; Pearce, 1995). However, seventy three CEOs (55 percent) responded to the survey. A remarkably high response rate compared to the typical 10 to 12 percent range (Hambrick, Geletkancyz & Fredrickson, 1993). A Kaiser-Meyer-Olkin test to measure sampling adequacy gave a 0.82 result that can be interpreted as 'meritorious' (Kaiser, 1974).

Measures

We adopted average performance over five years (ROA and ROE), after James and Hatten (1994), as our fundamental measures of performance. Other key performance variables are five-year average asset growth rate and total asset increase over a five-year period. Other dependent variables, not related to firm performance, included (1) the total number of external boards (firms and organizations) with which all the board members are involved (TOTALBOARDS), and (2) a four-item 7-point Likert type questions that measured the propensity of board to network. These four items are statements that have a range of not important (1) to extremely important (7). The statements are: (1) networking is one of the primary activities of the board, (2) our firm strongly encourages board members to network, (3) our firm actively uses the board's networks to gain a competitive edge, and (4) we can attribute much of our firm's success to our board's strong networks.

A total of six dependent variables are used in this study. Apart from the traditional performance measures of ROA and ROE, measures of asset growth would indicate any

relationship between networking and asset increase over a five-year period. TOTALBOARDS provides a measure of the total cross-board representation of the board members. The four Likert type questions seek to measure the perceived level of use of a board's networks.

A seven-item 7-point Likert type scale was used to measure the perceived use of Boards to (1) secure new customers -- depositors, (2) secure new customers -- borrowers, (3) develop relations with existing customers, (4) represent the firm in professional and trade organizations, (5) represent the bank in community organizations, (6) procurement of market trends and competitive information, and (7) help solve non-routine challenges and problems. The items ranged from not important (1) to extremely important (7).

Analysis

The analysis is essentially a two-step process. The first step involves determining correlations among independent variables followed by a factor analysis. The factor scores are then regressed against the four perceived networking strategy items (dependent variable). The second step involves, a factor analysis of the four items and using their factor score coefficients to find correlations among dependent variables. This two step process would essentially indicate (1) dimensionality of networking activities, (2) relationship between networking activity dimensions and perceived use of the networks, and (3) correlations between networking propensity and other performance and growth indicators.

A Pearson product-moment correlation matrix of the seven-item 7-point questions (independent variables) that measured the perceived use of the board in seven networking activities and a principal axis factor analysis was undertaken with R^2 's as initial communality estimates. Eigenvalue-one (Rummel, 1970) and scree tests (Catell, 1966) criteria would be used to determine number of factors. The factors will be extracted and subjected to direct oblimin (with $\delta=0$) and varimax rotations. Items with factor loadings of $\geq |.30|$ were treated as meaningful for interpretation (Hair, Anderson & Tatham, 1987). Inter-item reliability for all items were also calculated using Cronbach's alpha.

A stepwise regression analysis with the four-item 7-point is used as dependent variable and the factor score coefficients of the three factors treated as independent variables. The four questions are then subject to a principal components extraction to establish dimensionality of the four-item dependent variable. A Pearson product-moment correlation of the dependent variables is then reported.

Results and Discussion

The Pearson correlation coefficients of the independent variables (Table 1) shows moderate correlation among the networking activities of the board members. The only exception being the high correlation between securing new depositors and borrowers because both represent activities within the domain of customer development.

Insert Table 1 about here

Both oblimin and varimax factor rotations were conducted. A combination of the eigenvalue-one and scree plot criteria favored the choice of three-factor extraction explaining 85.1% of the cumulative variance (Table 2). The three dimensions contain items that lend themselves easily to interpretation.

Insert Table 2 about here

Factor 1, explaining 58.6% of the variance, is named ‘Customer Activity’ with all three customer-related networking activity loading heavily on this factor. Factor 2 is ‘Representative Activity’ with both representation in professional and trade organizations as well as representation in community and service organizations loading heavily on this factor. Factor 3 relates to ‘Functional Activity’ depicting the strategic functions of problem solving and executive scanning functions of board members. The oblimin factor intercorrelations between ‘Customer Activity’ and ‘Functional Activity’ is 0.44, indicating that the strategic functions and customer relation functions are moderately interrelated. Cronbach’s alpha for items representing the three dimensions are 0.90 (3-item Customer Activity), 0.80 (2-item Representative Activity), and 0.77 (2-item ‘Functional Activity’). All scales have alphas greater than the norm of 0.70.

Insert Table 3 about here

Stepwise regression results between the three factors and the dependent variables (four items measuring perceived use of board social networks) show that the ‘Customer Activity’ domain is significantly related with the four items (Table 3). This result indicates that the firm actively uses the board’s social networks to develop new customers and strengthen relations with existing customers. Functional activity (social networking to get competitive information) was not significant in all but one item. The possible implication is that board member networks are primarily social in nature and that members do not form networks with the sole intention of gaining competitive information that would help firm performance.

Insert Table 4 about here

A factor analysis of the four dependent variables reveals a solitary dimension that we term ‘NETPROP’ that explains 68.4 percent of the variance (Table 4). The Cronbach’s alpha for the four item scale is 0.84. Pearson correlation among NETPROP and other performance variables indicates significant results (Table 5). NETPROP has significant positive relationships with five-year average ROA and ROE.

Insert Table 5 about here

This result confirms our hypothesis of positive relation between networking and firm performance. NETPROP is also positively associated with TOTALBOARDS, an objective criterion of cross-board representation. Firms with high cross-board representation perceive networking to be an important tool in gaining competitive advantage.

Our results indicate several new unexplored facets of networking practices of board members. First, networking is a three dimensional construct composed of ‘customer activity’, ‘representative activity’, and ‘functional activity’. Second, the customer activity domain is perceived to impact firm performance and help the firm to gain a competitive advantage. Third, functional and representative activities do not affect firm performance. Fourth, a successful networking strategy entails encouragement of board members to network and actively using these networks to gain a competitive edge over other firms. Fifth, a successful networking strategy is positively associated with increased firm performance.

Conclusions

Our purpose was to demonstrate that an active social networking strategy followed by small businesses would have performance implications. We also show that the networking function is composed of three activity domains – customer, representational, and functional. Networking to either bring in new customers or develop existing relationships has strong performance and competitive advantage implications. In the course of this study, we have also developed scales to measure the social networking activities construct and firm-level networking strategy. Keeping in mind the exploratory nature of this research, further studies should address cross-industry sample and attempt to address quality of social networks among small business board members.

References

- Barney, J. (1986). ‘Strategic factor markets: Expectations, luck and business strategy’. *Management Science*, 32, 1231-1241.
- Barney, J. (1991). ‘Firm resources and sustained competitive advantage’. *Journal of Management*, 17, 771-792.
- Birley, S. (1985). ‘The role of networks in the entrepreneurial process’. *Journal of Business Venturing*, 1, 107-117.
- Boyd, B.K. and J. Fulk (1996). ‘Executive scanning and perceived uncertainty: A multidimensional model.’ *Journal of Management*, 22(1), 1-21.
- Carroll, G. R. and A. C. Teo (1996). ‘On the social networks of managers.’ *Academy of Management Journal*, 39(2), 421-440.
- Castanias, R. P. and C. E. Helfat, (1991). ‘Managerial resources and rents.’ *Journal of Management*, 17(1), 155-171.
- Catell, R. B. (1966). ‘The scree test for the number of factors.’ *Multivariate Behavioral Research*, 1, 245-276.
- Goodstein, J., K. Gautam and W. Boekker (1994). ‘The effects of board size and diversity on strategic change.’ *Strategic Management Journal*, 15, 241-250.

- Granovetter, M. (1973). 'The strength of weak ties.' *American Journal of Sociology*, 78, 1360-1380.
- Hair, J. F., R. E. Anderson, and R. L. Tatham (1987). *Multivariate data analysis*, 2nd ed., NY: Macmillan Publishing Company.
- Hall, R. (1992). 'The strategic analysis of intangible resources'. *Strategic Management Journal*, 13, 135-144.
- Hambrick, D. C., M. A. Geletkancycz, and J. W. Fredrickson (1993). 'Top executive commitment to the status quo: Some tests of its determinants.' *Strategic Management Journal*, 14, 159-174.
- Hansen, E. L. (1995). 'Entrepreneurial networks and new organization growth.' *Entrepreneurship Theory & Practice*, 19(4), 7-19.
- Ibarra, H. (1993a). 'Power, social influence and sense making: Effects of network centrality and proximity on employee perceptions.' *Administrative Science Quarterly*, 38, 277-303.
- Ibarra, H. (1993b). 'Network centrality, power, and innovation involvement: Determinants of technical and administrative roles.' *Academy of Management Journal*, 36(3), 471-501.
- James, W. L. and K. J. Hatten (1995). 'Further evidence on the validity of the self typing approach: Miles and Snow strategic archetypes in banking.' *Strategic Management Journal*, 16, 161-168.
- James, W. L. and K. J. Hatten (1994). 'Evaluating the performance effects of Miles and Snow's strategic archetypes in banking, 1983 to 1987: Big or small?' *Journal of Business Research*, 31, 145-154.
- Kaiser, H. F. (1974). 'An index of factorial simplicity.' *Psychometrika*, 39, 31-36.
- Knoke, D. and J. H. Kulinski (1982). *Network analysis*. Beverly Hills, CA: sage University Paper.
- Lado, A. A. and M.C. Wilson (1994). 'Human resource systems and sustained competitive advantage: A competency-based perspective.' *Academy of Management Review*, 19, 699-727.
- Larson, A. (1990). 'Partner networks: Leveraging external ties to improve entrepreneurial performance.' *Frontiers of Entrepreneurship Research*. 539-553, Wellesley, MA: Babson College.
- Lincoln, J. R. (1982). 'Intra- (and inter-) organizational networks.' In S. B. Bacharach (Ed.), *Research in the sociology of organizations: Vol. 1*, 1-38. Greenwich, CT: JAI Press.
- McElroy, J. C. and Charles B. Shrader (1986). 'Attribution theories of leadership and network analysis.' *Journal of Management*, 12(3), 351-362.
- Mehra, A. (1996). 'Resource and market based determinants of performance in the US banking industry.' *Strategic Management Journal*, 17, 307-322.
- Miller, D. and J. Shamsie (1996). 'The resource-based view of the firm in two environments: The Hollywood film studios from 1936 to 1965'. *Academy of Management Journal*, 39(3), 519-543.

- Mintzberg, H. (1983). *Power in and around organizations*. Prentice-Hall: Englewood Cliffs, NJ.
- Ostgaard, T. A. and S. Birley (1994). 'Personal networks and firm competitive strategy - A strategic or coincidental match?' *Journal of Business Venturing*, 9, 281-305.
- Pearce, J. A. (1995). 'A structural analysis of dominant coalitions in small banks.' *Journal of Management*, 21(6), 1075-1095.
- Pearce, J. A. and S. Zahra (1992). 'Board composition from a strategic contingency perspective.' *Journal of Management Studies*, 29, 411-438.
- Pearce, J. A. and S. Zahra (1991). 'The relative power of CEOs and boards of directors: Associations with corporate performance.' *Strategic Management Journal*, 12, 135-153.
- Pearce, J. A. and F. R. David (1983). 'A social network approach to organization design-performance.' *Academy of Management Review*, 8, 436-444.
- Peteraf, M. (1993). 'The cornerstones of competitive advantage: A resource-based view'. *Strategic Management Journal*, 14, 179-192.
- Pfeffer, J. (1992). 'Size, composition and function of hospital boards of directors: A study of organization-environment linkage.' *Administrative Science Quarterly*, 17, 218-228.
- Rediker, K. J. and A. Seth (1995). 'Boards of directors and substitution effects of alternate governance mechanisms.' *Strategic Management Journal*, 16, 85-99.
- Rummel, R. J. (1970). *Applied factor analysis*. Evanston, IL: Northwestern University Press.
- Singh, H. and F. Harianto (1989). 'Management-board relationships, takeover risk, and the adoption of golden parachutes.' *Academy of Management Journal*, 32, 7-24.
- Starr, J. A. and I. C. Macmillan (1990). 'Resource cooptation via social contracting: Resource acquisition strategies for new ventures.' *Strategic Management Journal*, 11, 79-92.

Table 1
Correlations Among Networking Activities of Board Members

Correlations	Secure new customers (depositors)	Secure new customers (borrowers)	Relations with existing customers	Representation (Professional Organizations)	Representation (Community Organizations)	Information Gathering and Scanning	Solving Non-Routine Challenges
Secure new customers (depositors)	1						
Secure new customers (borrowers)	0.93***	1					
Relations with existing customers	0.65***	0.66***	1				
Representation (Professional Organizations)	0.42***	0.37**	0.30*	1			
Representation (Community Organizations)	0.57***	0.56***	0.57***	0.70***	1		
Information Gathering and Scanning	0.65***	0.62***	0.40***	0.26*	0.62***	1	
Solving Non-Routine Challenges	0.49***	0.48***	0.31**	0.30*	0.43***	0.38***	1

Notes: N=73, significance at p-values denoted by -- * p ≤ 0.05, ** p ≤ 0.01, *** p ≤ 0.001

Table 2
Exploratory Factor Analytic Results of Board Networking Activities

	Two-Factor Results					Three-Factor Results						
	Oblimin Loadings		Varimax Loadings		h ²	Oblimin Loadings			Varimax Loadings			h ²
	1	2	1	2		1	2	3	1	2	3	
Secure new customers (depositors)	.81	.20	.82	.40	.84	.76	.05	.27	.79	.44	.23	.84
Secure new customers (borrowers)	.81	.18	.82	.38	.82	.81	.01	.24	.82	.41	.19	.88
Relations with existing customers	.52	.34	.57	.47	.55	.92	.08	-.16	.86	.05	.23	.80
Representation (Professional Organizations)	-.07	.92	.10	.88	.80	.09	.97	.04	.11	.15	.92	.89
Representation (Community Organizations)	.17	.83	.32	.86	.85	.30	.76	-.03	.43	.16	.80	.85
Information Gathering and Scanning	.92	-.17	.85	.06	.74	.26	-.09	.78	.39	.81	.05	.80
Solving Non-Routine Challenges	.76	-.06	.71	.13	.54	-.10	.14	.90	.11	.87	.23	.83
Eigenvalue	4.10	1.05	4.10	1.05		4.10	1.05	0.81	4.10	1.05	0.81	
Variance	58.6	15.0	58.6	15.0	73.6 % Cumulative	58.6	15.0	11.5	58.6	15.0	11.5	85.1% Cumulative
Oblimin Factor Intercorrelations												
	1.	1.00				1.	1.00					
	2.	0.44	1.00			2.	0.41	1.00				
						3.	0.44	0.30	1.00			

Table 3
Results of Regression Analysis of Networking Propensity Measures

	<u>Customer Activity</u>	<u>Representation Activity</u>	<u>Functional Activity</u>	<u>R²</u>	<u>Adjusted R²</u>	<u>P-Value</u>
Networking is one of the primary activities of the Board.	0.579	----	-.0269	0.408	0.390	.0000
Our bank strongly encourages Board members to network into the community.	0.406	----	----	0.165	0.152	.0006
Our bank actively uses the Board's networks to gain a competitive edge over others.	0.587	----	----	0.344	0.335	.0000
We can attribute much of our success to our Board's strong networks.	0.758	----	----	0.575	0.569	.0000

Table 4
Exploratory Factor Analytic Results for Networking Propensity Measures

Factor 1 (NETPROP)

Networking is one of the primary activities of the Board.	0.89
Our bank strongly encourages Board members to network into the community.	0.69
Our bank actively uses the Board's networks to gain a competing edge over others.	0.85
We can attribute much of our success to our Board's strong networks.	0.86
Eigenvalue:	2.73
Variance Explained:	68.4%
Cronbach's - a	0.84

Table 5
Correlation Coefficients of Dependent Variables

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)
1. Netprop	----	----	----					
2. TotalBoards	19.43	11.65	0.46***	----				
3. Growth Rate	13.00	17.33	-0.00	0.09	----			
4. 5yrROAAverage	1.06	.66	0.29*	0.04	0.24	----		
5. 5yrROEAverage	11.08	7.25	0.29*	0.02	0.36**	0.88***	----	
6. 5yrAssetIncrease	85.42	102.61	0.10	0.34*	0.57***	0.16	0.25	----

Notes: N=73, significance at p-values denoted by -- $p \leq 0.1$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$