Local And Virtual Alliances As A Supplemental Contributor To Firm Performance

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ABSTRACT:

The degree of participation of local alliances defines formal and informal relationships designed to share the knowledge base of a particular region. Local alliances have played an unprecedented role in firm performance in the past. A firm's involvement with those alliances can often be a measurable component to overall success (Levy, 2011). Today, the inclusion of virtual alliances may often serve as a supplement to the facilitation of relationships and support networks.

Keywords: *Local alliances, Virtual alliances, Firm performance*

Introduction

The access to relationships often serves as an entry way for new product introduction (Acs et al., 1994). The knowledge spillover when engaged in a business or personal relationship with a party in the same or similar industry can often encourage innovative activity. This notion that a reciprocal relationship amongst alliances exists has been demonstrated amongst firms in similar geographic locations. The localization of the relationship and the strength of the tie is what ultimately encourages this knowledge spillover (Levy, 2011). Yet, today the communication barrier of support networks has extended far beyond the geographically bounded region into the virtual universe. This research embodies the significance of local alliances on firm performance with a new perspective on the inclusion of virtual relationships in future firm success.

Theoretical Background

The theoretical underpinning of the aforementioned research stems from the knowledge based theory (Decarolis & Deeds, 1999). Knowledge generation is seen as source for superior performance. Moreover, the knowledge that flows within the organization is seen as a constant flow. In order to achieve this flow, access to knowledge generators such as; educational institutions, research labs, suppliers, partners, and so forth must be a part of the foundation for decision making and organizational action. These generators are seen as an entrepreneurial support system whereby the encouragement of the relationship fosters innovative activity.

While the spatial context of the firm plays a role on corporate performance (Delios & Beamish, 1999), it is the strength of the tie (Sternberg & Litzenberger, 2004) and commonality amongst the relationships that formulate a clustering, allowing the potential for growth of the firm. The research within this article demonstrates the dependence on alliances in a spatially concentrated area. However, the need for supplemental alliances and resources is demonstrated by an increase dependency on virtual alliances.

Conceptual Foundation And Data

The conceptual foundation for this research is proposed in the theoretical background of the knowledge based theory. An internet survey assessing firm performance of senior managers and executives in the professional business and technology service sector in South Florida serves as the basis for determining entrepreneurial support systems, including alliances.

Herein, the hypotheses are identified:

H1: Senior management of professional business and technology service firms in the NAICS 541 category view accessibility to alliances as a prime component of a successful firm.

H2: As the number of alliances increases for professional business and technology firms in the NAICS541 category so does the performance outcome of that firm.

The literature has argued that senior management has generally viewed alliances as a very important contributor to success (Boasson et al., 2005). The propensity to engage in alliance networks will encourage knowledge spillover, and contribute to a business model of high performing and innovative firms.

Findings And Descriptive Analysis

At the descriptive level, the survey findings display a high level of importance on local alliance building as a key to success. It is important to note that these findings relate to local alliances, which is perceived as an important value for the localization of a professional business or technology service firm. However, there is some evidence that virtual alliances also play a contributory role. The notion that virtual alliances can be considered a proponent for local success or virtual success of a firm is of significant value in that it can be explored further in future research.

The mean percentage of alliances each firm in South Florida indicated they have is roughly 76.6% and of those alliances 81.7% of them are located in South Florida. This illustrates that the majority of firms appreciate the value of strategic alliances. When the total number of firms is examined, each firm had a mean of 8.8 alliances that they consistently network with (refer to table 1).

Table 1: Firms With Alliances

Q2 Firms with Alliances	Descriptive and Frequencies	Q3 Number of Alliances in S. Florida	Descriptive Statistics
Mean	8.8	Mean	43%
Median	3.0	Median	15%
Number of Cases		Number of Cases	
Don't have alliances	53	Don't have alliances	49
Percent having alliances	76.6%	Percent having alliances in S. Florida	81.7%
Total No. of Cases	73	Total No. of Cases	30

Table two illustrates that respondents find particular alliances significant to their overall success. It is clear that business partners are ranked the highest in terms of importance of alliance with a percentage of importance of 93.1%. Professional associations as well as complementary business are also highly valuable as their percentage of importance is ranked second and third consecutively with a percentage of 86.5% and 81%.

Table 2: Importance Of Alliance By Type Of Alliance

Q5	Important (Top 3 categories)	Not Important (Bottom 2 categories)
Research institutions	54.8%	46.2%
Universities & Colleges	39.1%	61.9%
Supplier Partnerships	78.8%	21.2%
Business Partners	93.1%	7.9%
Professional Associations	86.5%	13.5%
Complementary Business	81.0%	19.0%

Table 2 is based on a Likert type 5-point scale ranging from Not Important (1) to Very Important (5)

In addition to determining the importance of alliances, the type of alliances was examined. Business partners were seemingly the most important alliance in that the firms in South Florida had over 44% of their alliances from that category. Professional associations, again was a close second with 43.5% and complementary business at 42% (refer to table 3).

Table 3: Types Of Alliances

Q4	Research Institutions	Universities & Colleges	Supplier Partnerships	Business Partners	Professional Associations	Complementary Business
% of Firms In each category	4.2%	19.2%	33.4%	44.1%	43.5%	42.8%
Total Number of Cases	72	73	72	72	73	72

One of the significant elements of the research illustrated the importance of the strength of alliances within each category as it pertained to entrepreneurial success (refer to table 4). Although all the categories were important in terms of choosing a location for a business, access to business partners, suppliers, and professional associations were the strongest networks that encourage alliance building. A Kendall's Tau-b correlation was executed to show the linkages between the importance assigned to each category. The correlation table demonstrates the importance placed on links between universities/colleges with research institutions, and between business partners and complementary business (refer to table 5).

Table 4: Importance Of Strength Of Alliance By Type Of Alliance

Q5	Research Institutions	Universities & Colleges	Supplier Partnerships	Business Partners	Professional Associations	Complementary Business
Mean	2.1	2.7	3.5	4.1	3.7	3.5
Not Important (bottom two categories)	46.2%	61.9%	21.2%	7.9%	13.5%	19.0%
Important (top 3 categories)	54.8%	39.1%	78.8%	93.1%	86.5%	81.0%
Number of Cases	21	26	33	38	37	42

Table Four is based on a Likert type 5-point scale ranging from Not Important (1) to Very Important (5)

Table 5: Inter-Correlations (Kendal Tau-B) Between The Importance Of Specific Types Of Alliances

Kendall Tau-b Correlations	Q5A	Q5B	Q5C	Q5D	Q5E	Q5F
Q5A Universities	1.00	.67*	-.07	.14	.04	.26
Q5B Research Institutions		1.00	.04	.12	.24	.36
Q5C Business Partners			1.00	.21	.34*	.36*
Q5D Professional Associations				1.00	.11	.27
Q5E Suppliers					1.00	.27
Q5F						1.00

* Represents correlations that are significant at the 95% level of confidence or higher

The usefulness of alliances with research institutions, universities, business partners, and so forth is empirically confirmed in the descriptive analysis. It is clear that the tables provide strong evidence for alliance building and clustering in the South Florida region.

The emergence of other types of alliances, such as distant alliances and virtual alliances also can have significant impact in decision making processes within an organization. When the firm has access to these supplemental knowledge generators, there is a reaffirmation that they are contributers to the overall success of the firm. Although they are secondary to local factors, firms in the sample acknowledged that they have virtual alliances and their significance. 21.1% percent of the firms sampled indicate that they have virtual alliances (refer to table 6).

Table 6: Firms Having Virtual Alliances

Q6	Virtual Alliances	No. of Firms
Percent with Virtual Alliances	21.1%	16
Total Cases		76

The importance of these virtual alliances among those firms that acknowledge that they have virtual alliances also plays a role in admitting that the common practice of going to the local supply house or neighbor for business advice has changed. While the localization of a business' immediate economy is communal, the dialog that is now being reached virtually helps to enhance the innovative environment through knowledge spillover. This is not to say that the local firm will no longer be a source of stimulation for practical operations, but the ability to access additional knowledge resources may play a deciding factor in business decisions. Table seven illustrates that 43.8% of the firms sampled feel that their virtual alliances are of significance to their entrepreneurial effort.

Table 7: Importance Of Virtual Alliance Among Those Having Virtual Alliances

Q7 If established virtual alliances, how important To entrepreneurial effort?	Virtual Alliances	No. of Firms
Not at all important	6.3%	1
Somewhat Important	31.3%	5
Important	43.8%	7
Very Important	18.8%	3

Structural Equation Modeling

The second phase of the analysis concentrates on structural equation methodologies to determine the effects of a firm's adoption of traditional alliances coupled with the significance of virtual alliances as it impacts organizational performance. As previously stated, the research determines both the accessibility to alliances and the impact of alliances on firm success.

H1: Senior management of professional business and technology service firms in the NAICS 541 category view accessibility to alliances as a prime component of a successful firm.

H2: As the number of alliances increases for professional business and technology firms in the NAICS541 category so does the performance outcome of that firm.

A two-step approach for modeling (Anderson & Gerbing, 1988) was utilized in this procedure. Firstly, an adequate measurement model was established and later tested for adequacy of fit (refer to figure 1).
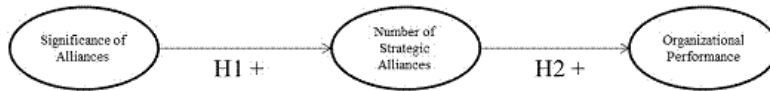

Figure 1: Measurement Model

Figure two indicates a model with path coefficients. Note that the path coefficients are not correlation coefficients. In this case, the model demonstrates a statistically significant path relating to the establishment of traditional alliances to business performance. As the number of traditional alliances increase, a firm gradually increases its' performance. The meaning of the path coefficient (e.g., 0.803 in figure 2) is that as the number of strategic alliances is increased by one standard deviation from its mean, business performance is expected to increase by 0.803 of its own standard deviation from its own mean (Bullmore et al., 2000). The data was screened for skewness, kurtosis, and possible outliers to avoid any violations of the assumptions identified.
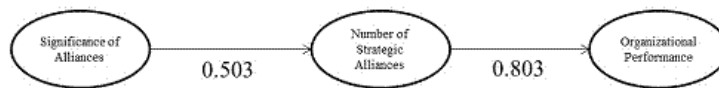

Figure 2: Model With Path Coefficients

Once the measurement in the model was defined, the hypotheses were then tested. When tested, the first hypothesis test confirmed the significance of alliances has a positive impact on the establishment of alliances. Moreover, the second test confirmed that the number of strategic alliances is positively related to performance in firms. As discussed below, the model was supported by various fit indices. Table eight indicates a significant relationship between traditional alliances and virtual alliances and business performance outcomes with a t-value of >2.00, and p<0.05.

Table 8: Hypotheses Test Results

Path	Coefficient	Standard Error	t-Value	Two Tailed p Value
H1: Significance of Alliances → Strategic Alliances	0.503	0.066	7.621	< 0.0001
H2: Strategic Alliances → Organizational Performance	0.803	0.092	8.730	< 0.0001

Note: $df = 25$

The analyses also provided evidence of model fit. With respect to commonly accepted fit statistics, all are suggestive of a well-fitting model. The χ^2 test for goodness of fit measures how well our model fits our set of observations. In other words, a measure of goodness of fit summarizes the discrepancy between the observed values and the expected values with regard to the postulated model. Bollen and Long (1993) explain that for models with 75 to 200 cases, the χ^2 test provides for a reasonable measure of fit. The significance of the χ^2 test for goodness of fit value is determined by examining the χ^2 statistic (here, $\chi^2 = 30.779$), the predetermined alpha level of significance ($\alpha = 0.05$), and the

degrees of freedom of the model (here, df = 25). Given these values (and a critical value of the χ^2 statistic of 37.653) for a model with 25 degrees of freedom (Hill & Lewicki, 2007), the null hypothesis indicating that business performance is independent of the establishment of alliances and that neither the proximity to resources nor organizational culture have an impact on the establishment of alliances.

Moreover, in table nine an examination of the fit model is done using the comparative fit index (CFI). The CFI compares the fit of the model we developed to the fit of a null model, in which the variables are assumed to be uncorrelated. With values exceeding 0.930 (Byrne, 1994), it is considered to be an acceptable fit, and the current model is deemed to be a better model than the null. In this case, the CFI was 0.968 implying that the model fits the data collected better than the null. This challenges the original notion that local alliances are the only acceptable form of alliances to achieve firm performance. The CFI indicates that the presence of virtual alliances is significant in predicting and influencing firm performance.

Lastly, the root mean square of approximation (RMSEA) and the standardized root mean square residual (SRMR) were also examined. The RMSEA had a measurement of 0.033 indicating a good fit, according to MacCullum et al. (1996). The SRMR also ranges from zero to 1.0, with well fitting models attainable at 0.05 (Byrne, 1998). The aforementioned model has a SRMR of 0.035, which again indicates a good model fit.

Table 9: Model Fit Indices

Fit Statistic	Value
χ^2	30.779
CFI	0.968
RMSEA	0.033
SRMR	0.035

Conclusively, the significance of alliances is a positive predictor of the establishment of alliances and the establishment of alliances is a positive predictor of firm performance. This conclusion is based upon the adequate fit of our model to the data and the significance of the t-Values associated with the path coefficients demonstrated in table nine. Thus, the two hypotheses of this study are supported and the model is valid.

Implications Of The Research

Although this study was geared toward the acknowledgement of local alliances as a contributing factor to entrepreneurial and innovative development., the research suggests that there are different types of alliances and knowledge generators that encourage spillover. The analyses clearly demonstrate the need for alliances in organizational decision making, and ultimately firm performance. However, the studies' mere glimpse into types of alliances shows the inclusion of virtual alliances as a supplemental knowledge generator, and possible contributor to nurturing an innovative culture within an organization.

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Dr. Sarit J. Levy has been in the academic and business environments for many years. She holds a Ph.D. in Business Administration from Touro University International, as well as a M.S. in management engineering and computer science from Long Island University in New York. Her B.A. specialized in history as well as comparative literature with a minor in Judaic studies. Dr. Levy has been working as a professor in the areas of business management, entrepreneurship, new product development, and marketing for nearly a decade. She has been recognized as a speaker and presenter for such conferences as the University of New Mexico Mentoring Conference in 2011, the International Mentoring Association conference in Orlando, Florida in 2012, and the Spring 2012 Marketing Management Association Conference in Chicago. Dr. Levy has also recently been awarded a scholarship to attend the CIBER-FDIB Green Business Strategy Research Program in Australia. She currently teaches part-time at the University of Miami, and she does business consulting for start-up as well as established companies in the South Florida region.

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