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## **THE IMPACT OF ORGANIZATIONAL EFFICACY AND FLEXIBILITY ON SMALL BUSINESS PERFORMANCE**

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### **ABSTRACT**

The current study examines the role of organizational efficacy and supplier flexibility in regards to the business performance of small and medium-sized firms. It was anticipated that both organizational efficacy and supplier flexibility would have positive relationships with performance for small and medium-sized businesses. Results supported these hypotheses and indicate the importance of firms developing the ability to respond to changing demands of the buyer in the areas of delivery, volume, and modification as well as developing the belief that the organization has the capabilities, judgment, and confidence necessary to perform successfully.

### **INTRODUCTION**

Small business survival is predicated on numerous factors. For instance, research has shown that long-term relationships with other organizations can increase both the growth and survival of small businesses (Aldrich & Auster, 1986); conversely, the absence of such relationships can contribute to higher failure rates (Baum, Calabrese, and Silverman, 2000). In regards to supply chain management, the flexibility and centralized decision-making allows small business owners to be well suited for logistical integration with key suppliers in order to create a more successful business partnership (Gélinas & Bigras, 2004). Some of the advantages for effective supply chain practices in small firms include centralized decision making, organizational flexibility with limited layers of bureaucratic structure, and a focus on customer service and business growth. In addition, small business owners are often searching for greater access to resources and place a high value of customer service which makes them more open to strategic relationships (Beekman & Robinson, 2004).

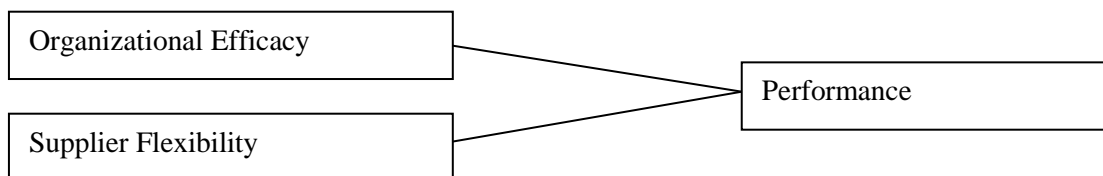
If small businesses are to be successful in supply chain integration they must rely on a strategic approach to gain acceptance from larger firms. Much of the previous research on supply chain management has focused on large corporations with complex systems and processes in place to specifically manage this function. However, in situations with dramatic differences in organizational size and resources, small business owners must adopt strategic practices that allow them to be viewed as legitimate partners capable of creating mutually beneficial relationships. Small businesses must work hard to establish legitimacy and more research is needed to better understand the supply chain function and the strategies necessary for successful relationships.

While the centralized structure and decision-making of most small businesses promote effective logistical integration, there are also challenges that can limit the effectiveness of such

relationships. Among these potential barriers are less sophisticated management information systems, limited long range production capabilities, and a lack of resources to achieve economies of scale. In order to overcome these obstacles small businesses must be willing to invest in strategic relationships with key customers that emphasize factors such as response times and customer service (Gélinas & Bigras, 2004). As suggested by Gélinas and Bigras (2004), small firms are generally more focused on a limited number of customers and place great value on developing long-term, mutually beneficial relationships. These more intimate relationships are necessary for small businesses to succeed in a competitive business environment.

The purpose of this study is to examine the role of organizational efficacy and flexibility in regards to the business performance of small firms. Specifically, this study examined the relationship that these variables have with business performance from a supplier's perspective. Prior research by Redondo & Fierro (2007) examined supply chain integration based on the buyer's role; our study will offer a different perspective from the role of small business supplier. A model of the relationships can be found in Figure 1.

Figure 1: Organizational Efficacy, Supplier Flexibility and Performance in SMEs



## LITERATURE REVIEW

### Small Business

Supply chain management can serve as a critical function for small firms, and there has been a call for more focus on its impact within the small business context (Gélinas & Bigras, 2004; Nelson & Ratliff, 2005; Morrissey & Pittaway, 2006; Redondo & Fierro, 2007). Research by Redondo & Fierro (2007) produced interesting findings when comparing buyer-supplier relationships within small and medium-sized enterprises. They found that trust and commitment had a greater impact on the long-term orientation of these relationships, and that communication was an important strategic tool for small business owners. Other key components in relationship development included frequent inter-firm contact, firm flexibility and reciprocity, and adaptability to the marketplace.

Whereas most large companies have a formal supply chain management function, small businesses often lack such a system and instead rely on limited information processing capabilities (Quayle, 2000). This can create a situation where smaller suppliers are forced to

provide substantial accommodations to larger organizations while also facing intense price pressure and customer service expectations (Kasouf & Celuch, 1997). Many small business owners tend to adopt a more informal managerial style and are personally responsible for collecting information and making all final decisions (Matlay, 1999). As their businesses grow, they may adopt a more formalized approach to supply chain management, but the availability of resources is still much less than the dedicated departments found in most large companies. As suggested by Morrissey and Pittaway (2006), once a business gets to a certain size, generally 26 to 50 employees, it will often identify a purchasing agent responsible for managing supplier relationships. Even then, however, there is a reliance on incomplete information and a limited processing system.

Although small businesses can be important suppliers for large companies, past research also indicates that these firms must be aware of the business environment and should target customers in which they can develop mutually beneficial relationships (Saunders, 1997; Fuller & Lewis, 2002). Some studies have shown that business size has a direct impact on the power dependency with the distribution channel (Gélinas & Bigras, 2004; Redondo & Fierro, 2007), and that larger companies are often able to control the relationship with smaller customers or suppliers (Mudambi, Schruender, & Mongar, 2004). As suggested by Gélinas & Bigras (2004), this can lead small businesses to have a subordinate relationship to larger companies.

However, in situations where small suppliers are able to identify effective partners, these firms can be very effective at providing strong customer service and establishing a more personalized strategic connection. While the supply chain practices of smaller firms are generally less sophisticated, the focus is often much more on maintaining flexibility and a personalized commitment (Devins, Gold, Johnson, & Holden, 2005; Morrissey & Pittaway, 2006). Beekman and Robinson (2004) encourage small business owners to selectively identify businesses poised for growth and to focus on finding partners interested in long-term relationships. Since smaller suppliers often do not need as much information to establish business relationships, it is likely that their decision making processes will be more efficient and service oriented (Matlay, 1999). If done correctly, small businesses can use supply chain management practices to develop a competitive advantage for sustainable growth (Ahuja 2000).

## **Organization Level Efficacy**

Despite the suggestions of March and Simon (1958), the current supply chain research literature contains very few empirical investigations of efficacy at the interorganizational level. The focus of most of the attention concerning these variables is on the individual organization. Katz and Kahn (1978) discuss the open system view of organizations in which organizations include patterned activity on the part of the actors within the organization. By slightly adjusting this framework it is possible to examine the interorganizational influences of organizational

behavior variables on the organization if one takes the perspective of the actor regarding organizational performance.

Although little research related to organizational efficacy exists, there is a significant amount of research concerning organizational learning and knowledge creation and acquisition (Cohen & Levinthal, 1990; Huber, 1991; Nonaka, 1994; Tsai, 2001). Likewise, organizational trust has also enjoyed a great deal of attention (c.f. Anderson & Narus, 1990; Kumar et al, 1995; Nooteboom, 2000; Johnston et al., 2004). More recently, researchers examined organizational commitment (Brown et al., 1995) and organizational satisfaction (Benton & Maloni, 2005), both at the organization level. When applied to performance in the interorganizational relationship, these variables act in a very similar fashion as they do when applied in the traditional organizational setting at the individual level of analysis. With regard to supply chain management, Agrell et al. (2004) mentions that most include the ideas of selection and coordination as well as motivation of the suppliers in the supply chain. Efficacy, however, has had little empirical examination at the interorganizational setting with the individual responding on behalf of the organization.

Efficacy (Bandura, 1977), a prominent variable in motivation theory, is used in this study. However, for the purposes of this specific study, this variable is applied to the organizational level rather than remaining at the individual level, typically referred to as self-efficacy (Bandura, 1977), or group level, group-efficacy or collective-efficacy (Gist, 1987; Zellars et al., 2001; Jung & Sosik, 2003; Tasa & Whyte, 2005). This study uses a relatively new application of efficacy, organizational efficacy (Gist, 1987; Bohn, 2002), which is defined as the cognitive confidence of the organization that it has the capability to perform its responsibilities well. This competency consists of the collective internal judgments of those individuals within the organization that the organization has the capabilities, judgment, and confidence necessary to perform successfully.

The study of self-efficacy continues to find support for its influence on performance at the individual level. Gist, Stevens, and Bavetta (1991) found in a study utilizing two time periods that self-efficacy at time one is significantly related to performance at time two. Bandura's idea of an individual's confidence in his or her ability to perform well does relate to that person's performance. The Gist, Stevens, and Bavetta study contributes to evidence demonstrating that self-efficacy predicts performance and this prediction is often better than an individual's past performance (Bandura, Reese & Adams, 1982; Schunk, 1984; Bandura, 1986).

The study of efficacy has also found support for its influence on performance at the group level using collective efficacy, the efficacy of the group. In their meta-analysis on collective efficacy and team performance, Gully et al. (2002), find that there is a significant relationship between collective efficacy and performance. Tasa & Whyte (2005) build on these results and find that there is a positive relationship between collective efficacy and the ability to participate

in vigilant problem solving. Both of these substantiate Riggs and Knight's (1994) findings that collective efficacy is related to group success or failure.

Because of the significant literature supporting the notion that efficacy is positively related to performance at the individual and group levels, it is suggested that organizational efficacy will lead to greater performance at the interorganizational level. Because self-efficacy affects an individual's ability to overcome obstacles (Bandura, 1986) and perform well (Gist et al., 1991), motivation, through organizational efficacy, is expected to be related to performance as well. The greater the confidence that the organization's employees have in the company's ability to perform well, the higher the performance in the interorganizational relationship. Thus, the following hypothesis is given.

Hypothesis 1: A positive relationship exists between perceived organizational efficacy and performance for small and medium-sized businesses.

## **Supplier Flexibility**

Flexibility within organizations is an area under increasing examination by researchers in operations management. For example, strategic flexibility, the ability of an organization to make informed and educated adjustments to its objectives in its operations (Lau, 1996), is imperative if organizations are recognize and react promptly when faced with a changing environment (Shimizu and Hitt, 2004). This operational flexibility provides an opportunity for organizations to pursue improved outcomes while maintaining lower investments of capital (Narasimhan & Das, 1999).

Many aspects of operational flexibility have been the subject of both research and practice in the last few years. Sanchez (1995) proposes two dimensions of flexibility, resource and coordination. Resource flexibility is the ability to utilize an existing resource across a wide range of alternative uses. Coordination flexibility is the capability to redefine product strategies and reconfigure resources for product production. In sum, as Gerwin (1986: 39) states, "Flexibility is the ability to respond effectively to changing circumstances."

Manufacturing flexibility is one of the most researched areas of flexibility in current literature. For example, D'Souza and Williams (2000) developed a taxonomy of manufacturing flexibility dimensions, and Vokurka and O'Leary-Kelly (2000) have summarized much of the literature on manufacturing flexibility in order to develop a list of 15 manufacturing flexibility dimensions ranging from automation to volume flexibility. Gerwin (1986) focused on seven aspects of flexibility that overlap with Vokurka and O'Leary-Kelly's (2000) list and includes such dimensions as delivery, volume and modification flexibility. Narasimhan & Das (1999) empirically examined manufacturing flexibility and find that modification, volume and new product flexibility lead to lowering cost.



Supply chain flexibility is beginning to receive more attention from researchers examining flexibility within interorganizational relationships. Duclos, Vokurka, and Lummus (2003) indicated that beyond the individual organization's flexibility, supply chain flexibility examines flexibility between organizations through coordination. Mason-Jones, Naylor, and Towill (2000) articulated the necessity for improvements in matching supplier ability and production to the consumer's desires.

Supply chain flexibility, as in manufacturing flexibility, is a multi-dimensional construct reflecting the combination of flexibilities within the supply chain. There are five flexibilities included within the domain of supply chain flexibility (Vickery, Calatone, & Droge, 1999). First, product flexibility is the ability to alter the product to the customer's specifications. Second, the ability to adjust capacity to meet customer demands is volume flexibility. Third, new product flexibility is the ability to produce new products for the customer. Fourth, distribution flexibility is the ability to distribute the products as necessary. Finally, the ability to be responsive to the customer's desires as the market demands is responsiveness flexibility.

Duclos et al. (2003) and Lummus et al. (2003) state that each of the five dimensions of flexibility are primarily held within an individual area of a firm. For example, manufacturing is responsible for volume, marketing for distribution, etc. Thus, these flexibilities are internal within an organization in the supply chain. Despite this, a broader examination of flexibility of the supply chain itself, not just individual firms, will aid the study of supply chain flexibility.

Because of the above argument, the authors propose five areas of supply chain flexibility that are applied to the supply chain as a whole rather than to individual firms. These include:

- Operations systems flexibility - the ability to rearrange assets and processes to meet customer demands (Allnoch, 1997; Radjou, 2000).
- Logistics flexibility – flexibility in delivery and receipts of products and services as customers and sources change (Fuller et al., 1993; Bradley, 1997; Richardson, 1998; Huppertz, 1999; Swaminthal, 2001).
- Supply flexibility – flexibility to reconfigure the supply of products within the supply chain (Burt & Soukup, 1985; Jordon & Michel, 2000; Fisher, Raman, & McClelland, 2000).
- Organizational flexibility – flexibility to change the organizational structure to best meet customer needs (Wright & Snell, 1998; Miles, 1989; Vokurka & O'Leary-Kelly, 2000; Hult, Ketchen, & Nichols, 2002).
- Information systems flexibility – flexibility to alter alignment of information systems as organizational and customer needs demand (Vokurka & O'Leary-Kelly, 2000).

While these flexibilities may better describe supply chain management flexibility, there has been no examination of the idea of supplier flexibility within the supply chain. The question

arises as to what supplier flexibility really is. This paper examines flexibility from the perspective of the supplier, and the effect that flexibility has on the performance of the supplier within the supply chain.

While supply chain flexibility and supply flexibility are not new areas of study, the idea of supplier flexibility is new to the literature on flexibility. Supplier flexibility does not consider manufacturing types of flexibility such as lowering costs, nor is this flexibility a coordination mechanism as is supply chain flexibility. In addition, supplier flexibility is not supply flexibility which is more concerned with the flexibility in the number or type of suppliers. Instead, supplier flexibility focuses on the actions of the supplier in its relationship with the buyer.

Given the delineation of what supplier flexibility is not, a definition of supplier flexibility needs to be established. The definition for supplier flexibility in this study is the ability of the supplier organization to respond to the changing demands of the buyer in the areas of delivery, volume, and modification. Delivery flexibility is the ability by the supplier to respond to changes in the demand by the buyer of the delivery of the product or service. Volume flexibility is the ability to vary the amount of products or services as requested by the buyer. Modification flexibility is the ability to respond to changes in the buyer's product or service specifications. Based upon the literature on supply chain flexibility and manufacturing flexibility, the preceding definition is aligned with the individual organization perspective of Vickery et al. (1999).

Supply chain flexibility and manufacturing flexibility have been shown to produce positive significant results in performance and cost reduction (Vickery et al., 1999; Gerwin, 1993). Supplier flexibility is an aspect of organizations (suppliers in particular) that should also assist them in performing well. Supplier flexibility in delivery, volume, and modification are all important organizational competencies. Again, the emphasis here is on supplier flexibility as an ability of the organization to perform. Thus, the following hypothesis is posited concerning supplier flexibility and performance.

Hypothesis 2: A positive relationship exists between supplier flexibility and performance for small and medium-sized businesses.

## METHODOLOGY

### Sample

An electronic survey was administered via email to the approved vendors for a large university in the southwestern United States. The respondent for each vendor was the vendor's primary contact. For this study, a specific set of vendors with one buyer was chosen in order to retain some commonality among the respondents. In addition, it was necessary to determine their degree of institutionalization when working for this specific vendor. While objective



measures are preferred for empirical analysis, collecting this type of data from small businesses can be problematic (McCracken, McIlwain, & Fottler, 2001). Previous empirical studies, however, have found that the use of objective and subjective measures are highly correlated (Dess & Robinson, 1984; Venkatraman & Ramanujam, 1986). Thus, the use of subjective measures, in this case respondents assessing their own firm's performance, flexibility and efficacy, is a reasonable solution and provides this study with a means for analysis.

Of the 498 accessed surveys, 156 surveys were completed indicating a 31percent response rate of those accessing the survey. Of the 156 completed surveys, there were 134 usable surveys that were considered an SME with fewer than 500 employees after removing those cases with low response rate. The average size firm is 34 employees.

## Measures

Participants were asked to specify the size of the organization by indicating the number of employees (Kimberly & Evanisko, 1981). As has been mentioned earlier, the size of the organization can impact the relationship between the supplier and the buyer (Redondo & Fierro, 2007). In addition, respondents were asked for the number of years the organization has been a vendor to the university to assess the degree of institutionalization, which can potentially affect the vendor's ability to respond to customer demands (Dimaggio & Powell, 1983). The average length of time the organization had been working with the university is 6.39 years. The respondents were also asked to indicate the length of time that he or she has worked with the organization which can help to indicate the person's tendency to observe, accept, and adopt the values and norms of the organization (Chao, O'Leary-Kelly, Wolf, Klein & Gardner, 1994). The average length of time the respondent had been working with the company is 9.49 years.

Supplier flexibility, defined by the areas of delivery, volume and modification flexibility as well as the organization's attitude towards flexibility is measured using six items developed for this study that came from the definition. These six items are tested using a seven point Likert-type scale with responses ranging from strongly disagree (1) to strongly agree (7). These items can be found in Table 1.

Table 1. Survey Items

Construct	Items
Supplier Flexibility	<ol style="list-style-type: none"><li>1. My company can quickly and easily respond to changes in this buyer's product or service specifications.</li><li>2. My company can quickly and easily respond to changes in the amount of products and services requested by this buyer.</li><li>3. My company can quickly and easily respond to varying delivery requests by this buyer.</li></ol>

	<ol style="list-style-type: none"> <li>4. My company will make whatever necessary arrangements are necessary to accommodate this buyer.</li> <li>5. My company can respond effectively to changing circumstances created through our relationship with this buyer.</li> <li>6. My company views flexibility when working with our customers such as this buyer as an important part of our relationship with these customers.</li> </ol>
Organizational Efficacy	<ol style="list-style-type: none"> <li>1. The company I work for has above average abilities to perform for this buyer.</li> <li>2. The company I work for performs well compared to other companies doing work for this buyer.</li> <li>3. My company is able to perform as expected for our buyer.</li> <li>4. The employees of my company working with this buyer have excellent job skills.</li> <li>5. It is important for my company to do good work for this buyer.</li> <li>6. My entire company benefits when we do good work for this buyer.</li> <li>7. My company would notice if we did not do good work for our buyer.</li> <li>8. My company needs the work done for our buyer.</li> <li>9. My company expects good outcomes when we perform well for this buyer.</li> </ol>
Performance	<ol style="list-style-type: none"> <li>1. My company always delivers on time to this buyer.</li> <li>2. My company fully complies with all portions of this buyer's request.</li> <li>3. My company always corrects all problems or mistakes prior to acknowledging completion of our work order.</li> <li>4. My company uses only approved PRODUCTS when working for this buyer.</li> <li>5. My company uses only approved PROCEDURES when working for this buyer.</li> <li>6. My company performs well for this buyer compared to other companies.</li> <li>7. My company spends the necessary time and resources to ensure our job for this buyer is done correctly.</li> </ol>

Organizational efficacy (Gist, 1987; Bohn, 2002) is measured in this study using an adaptation of Riggs and Knight's (1994) assessment of collective efficacy belief scale (previous  $\alpha=.84$ ) and collective outcome expectancy scale (previous  $\alpha=.71$ ). This efficacy scale with nine items examines the capabilities, purpose and confidence of the organization using a seven point Likert-type scale with responses ranging from strongly disagree (1) to strongly agree (7). These items can be found in Table 1.

The items assessing performance were designed specifically for this study. They were developed through an examination of the literature and based on the expectations of the business relationship as determined by the buyer. Specifically, supplier firms as well as multiple buyers in more than one industry were questioned to determine items that accurately assess performance in this type of relationship. The survey was then developed and examined by researchers as well as

those in practice with changes made that were necessary. After a pilot study on suppliers to a global telecommunications firm resulted in good results, the survey was determined usable for this survey. These items are tied to the definition of performance as well as those areas that the supplier must monitor for quality performance for the buyer. These seven items assessed performance in areas such as on time delivery, full compliance with buyer's requests, properly correcting all problems or mistakes prior to acknowledging completion of the work order, and using approved products and procedures. These items were measured using a seven point Likert scale ranging from strongly disagree (1) to strongly agree (7). The following describes how the reliability of these items was determined. These items can be found in Table 1.

### Data and Scale Analysis

The data were screened and prepared using Kline's (1997) recommended procedures. After a full analysis, cases with missing data points, as well as outliers identified with the frequency distribution of standard scores, were removed. Univariate normality was assessed by examining each item for skewness and kurtosis. The test showed a normal distribution. Cronbach's alpha was used to establish the reliability of the scales (Nunnally & Bernstein, 1994; Henson, 2001). The coefficient alpha's for each scale was well above Nunnally and Bernstein's (1994) suggested reliability coefficient of .70. These reliability estimates are found in Table 2.

The item scores were assessed to evaluate the consistencies of the measurement items with construct validity. Utilizing a confirmatory factor analysis (Ahire & Deveraj, 2001), LISREL was used to examine the latent variable with its corresponding items. The latent constructs were analyzed using principle components factor analysis to extract the analysis pattern. Using the K1 rule (Kaiser 1960), organizational efficacy and supplier flexibility extracted only one factor. Therefore, there is only one latent construct per list of variables (Hattie, 1985). The initial factor pattern/structure coefficients as well as the communalities, eigenvalues, and Cronbach's alphas are presented in Table 2.

Table 2. Initial Factor Pattern/Structure Coefficient for Efficacy, Flexibility and Performance

Variable Item #	Organizational Efficacy			Supplier Flexibility		Performance	
	Factor 1	Factor 2	$h^2$	Factor	$h^2$	Factor	$h^2$
1	.825	-.283	.761	.837	.700	.786	.617
2	.576	-.163	.358	.841	.708	.791	.626
3	.869	-.036	.756	.842	.709	.869	.756
4	.769	-.349	.714	.758	.574	.834	.698
5	.834	-.222	.746	.860	.740	.870	.756
6	.821	-.152	.697	.862	.743	.771	.595
7	.735	.398	.698	n/a	n/a	.860	.740
8	.561	.700	.805	n/a	n/a	n/a	n/a

9	.726	.347	.647	n/a	n/a	n/a	n/a
Total Variance Explained	56.779			69.573		68.364	
Initial Eigenvalue	5.110			4.174		4.786	
Second Eigenvalue	1.071			.976		.604	
Alpha	$\alpha = .904$			$\alpha = .912$		$\alpha = .922$	

Because two items in the organizational efficacy scale fell below .7, the items in this scale were examined further. Following analysis of the factor pattern/structure coefficients and examination of the questions on the scale, item eight was removed from the scale. This item did not fit well with the other items and had a low factor pattern/structure coefficient. In addition, this item appears to capture dependence rather than efficacy because it states that the individual's company needs the work done for the buyer. Cronbach's alpha was checked as well as the factor pattern/structure coefficient for the efficacy scale. Further review of the coefficients and Cronbach's alpha indicated a necessity to remove item two from the scale as well due to its poor fit with the other measurement items. This item asked for a perception of the individual's company compared to other companies rather than just asking if the individual's company can perform for the buyer. The final factor pattern/structure coefficient resulted in a seven-item scale with one factor extracted with an alpha of .909, an improvement of almost one percent, and a total variance explained of 65.086 which is also an improvement over the original value. The final factor pattern/structure coefficient can be seen in Table 3.

A LISREL model assessed the fit of the individual items with the latent construct. Examining the fit indices allows for a test of discriminant validity. The initial results of these analyses are found in Table 4. An examination of the fit indices indicates that flexibility has the poorest fit. A test of discriminant validity allows further investigation. First, the scale reliabilities are sufficiently larger than the correlation averages with other constructs. In addition, the interscale correlations, the correlations between items within a scale, are adequately different from one meaning they are not perfectly correlated. In addition, for this analysis, the percent of variance extracted by the items from the scale are greater than the squared interscale correlations of the latent variable. Another aspect of discriminant validity includes the examination of average item-to-total correlations of non-scale items (Ahire & Deveraj, 2001). The results of this analysis indicate that only one item, flexibility4, is more highly correlated to non-scale items than scale items. Following this analysis and after examination of the question itself, the item flexibility4 was removed from the supplier flexibility variable. In addition, after examining the factor pattern/structure coefficients and the confirmatory factor analysis, the item flexibility5 was removed because of a poor fit.

Table 3. Final Factor Pastor/Structure Coefficient for Efficacy, Flexibility and Performance

Variable Item #	Organizational Efficacy		Supplier Flexibility		Performance	
	Factor	h <sup>2</sup>	Factor	h <sup>2</sup>	Factor	h <sup>2</sup>
1	.845	.715	.889	.791	.786	.617
2	<i>n/a</i>	<i>n/a</i>	.926	.858	.791	.626
3	.877	.770	.917	.840	.869	.756
4	.784	.615	<i>n/a</i>	<i>n/a</i>	.834	.698
5	.863	.745	<i>n/a</i>	<i>n/a</i>	.870	.756
6	.836	.698	.764	.583	.771	.595
7	.709	.503	<i>n/a</i>	<i>n/a</i>	.860	.740
9	.714	.510	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Total Variance Explained	65.086		76.806		68.364	
Initial Eigenvalue	4.556		3.074		4.786	
Second Eigenvalue	.758		.518		.604	
Alpha	$\alpha = .909$		$\alpha = .897$		$\alpha = .922$	

Table 4. Initial Construct Fit Indices

Construct	$\chi^2$	d.f.	CFI	GFI
Organizational Efficacy	78.80	14	.94	.86
Supplier Flexibility	200.64	9	.78	.65
Performance	37.69	14	.98	.93

The results of the removal of these items slightly lowers the Cronbach’s alpha for this construct to .897 from .912, but it does increase the variance explained from 69.573 to 76.806. This indicates a much better fit than the previous solution. The results of this analysis and new factor pattern/structure coefficient as well as communality, initial and second eigenvalues and variance explained can be seen in Table 5. In addition, the overall means, standard deviations, Cronbach’s alphas, and correlations of the latent variables are found in Table 6.

Table 5. Final Construct Fit Indices

Construct	$\chi^2$	d.f.	CFI	GFI
Organizational Efficacy	78.80	14	.94	.86
Supplier Flexibility	3.37	2	1.00	.99
Performance	37.69	14	.98	.93

Table 6. Means, Standard Deviations, Cronbach’s Alphas, and Correlations

Construct	Means	S.D.	1	2	3
Organizational Efficacy	6.311	.695	(.904)		
Supplier Flexibility	6.114	.886	.585*	(.897)	
Performance	6.211	.881	.663*	.561*	(.922)

Note: \*Correlations are significant at the 0.01 level (2-tailed). Reliability coefficients are presented on the diagonal.

## RESULTS

The purpose of this study is to examine the relationship of both organizational efficacy and supplier flexibility with performance in SMEs. Hypothesis one stated that there is a positive relationship between organizational efficacy and performance in SMEs. In addition, hypothesis two states that there is a positive relationship between supplier flexibility and performance. The hypotheses were tested by first entering the control variables of organizational size, the number of years with the company and the number of years working for the buyer and the number of years working as a manager for this company. Following this, both organizational efficacy and supplier flexibility were entered into the regression model.

Table 7. Results of Simultaneous Regression Analysis for Prediction of Performance in SMEs

Variable	<i>B</i>	<i>SE B</i>	$\beta$	95% CI		VIF
				Lower	Upper	
Step 1:						
# of Employees	.000	.000	-.040	-.001	.000	1.011
Comp Years	.006	.010	.055	-.013	.025	1.045
Manager Years	.002	.009	.018	-.015	.019	1.055
Step 2:						
# of Employees	.000	.000	-.034	-.000	.000	1.033
Company Years	-.004	.007	-.032	-.018	.011	1.094
Manager Years	.001	.006	.013	-.011	.014	1.096
Organizational Efficacy	.599	.093	.527*	.415	.784	1.642
Supplier Flexibility	.207	.075	.223*	.058	.356	1.615

Note.  $R^2$  for first model = .005       $R^2$  for second model = .456       $\Delta R^2 = .450$

\* $p < .01$        $N = 134$       Two-tailed tests.

The first model with only the control variables resulted in an ANOVA with an F statistic of .249 that was not statistically significant ( $p > .05$ ). The second model, which includes both the control variables as well as organizational efficacy and supplier flexibility, was statistically significant with an ANOVA with an F statistic of 22.450 ( $p < .05$ ). These two predictor



variables improved the fit of the model with an  $R^2$  of .456, an adjusted  $R^2$  of .436, and a  $\Delta R^2 = .450$  that was statistically significant ( $p < .05$ ). In addition, the relationship of the predictor variables with performance was examined using standardized and unstandardized coefficients, statistical significance, and confidence intervals. For a summary of these results, see Table 7. The results of the regression analysis indicate that both organizational efficacy and supplier flexibility are statistically significantly related to performance in SMEs ( $p < .01$ ), thus supporting hypotheses one and two.

### DISCUSSION AND PRACTICAL IMPLICATIONS

The purpose of this study was to examine the role of organizational efficacy and flexibility in regards to the business performance of small firms. Specifically, this study examined the relationship that these variables have with business performance from a supplier's perspective. It was anticipated that both organizational efficacy and supplier flexibility would have positive relationships with performance for small and medium-sized businesses.

There exists significant literature supporting the notion that efficacy is positively related to performance at the individual and group levels (Gist, 1987; Gist et al., 1991; Zellars et al., 2001; Jung & Sosik, 2003; Tasa & Whyte, 2005 ); however, efficacy has had little empirical examination at the interorganizational setting with the individual responding on behalf of the organization. The current study begins to fill this gap in the small business literature. It was hypothesized that organizational efficacy would lead to greater performance at the interorganizational level. Because self-efficacy affects an individual's ability to overcome obstacles (Bandura, 1986) and perform well (Gist et al., 1991), this same concept extended to the organization level, organizational efficacy, was expected to be related to performance for small and medium businesses as well. The greater the confidence that the organization's employees have in the company's ability to perform well, the higher the performance in the interorganizational relationship. This hypothesis was supported.

A practical implication of this finding for small and medium sized firms, therefore, is the need to develop the belief that the organization has the capabilities, judgment, and confidence necessary to perform successfully. Although the supply chain practices of these firms is often less sophisticated and more personalized (Devins, Gold, Johnson, & Holden, 2005; Morrissey & Pittaway, 2006), they can still be quite effective in developing strategic relationships. Small and medium sized businesses will generally rely on trust, collaboration, and communication rather than superior technologies and processes to reinforce commitment level and customer satisfaction (Redondo & Fierro, 2007).

According to Bandura (1994), "The most effective way of developing a strong sense of efficacy is through mastery experiences." At the organizational level this would likely translate into individual employees being made aware of the firm's successful performance and their

contributions to these accomplishments. Additional research should not only test this means of developing organizational efficacy, but also consider the other mechanisms which are known to positively impact individual self-efficacy. These would include social modeling (making employees aware of similar organizations' success and how it was achieved), social persuasion (motivating feedback given to employees to encourage persistence of effort and goal attainment), and psychological responses (minimizing employee stress and elevating mood when facing difficult or challenging tasks) (Bandura, 1994).

Previous research has found that supply chain flexibility and manufacturing flexibility produce positive significant results in performance and cost reduction (Vickery et al., 1999; Gerwin, 1993). The current study examined the concept from a novel perspective – that of supplier flexibility; there has been no previous examination of the idea of supplier flexibility within the supply chain. Supplier flexibility in this study is the ability of the supplier organization to respond to the changing demands of the buyer in the areas of delivery, volume, and modification. More specifically, delivery flexibility is the ability by the supplier to respond to changes in the demand by the buyer of the delivery of the product or service. Volume flexibility is the ability to vary the amount of products or services as requested by the buyer. Modification flexibility is the ability to respond to changes in the buyer's product or service specifications.

It was anticipated that supplier flexibility was an aspect of organizations that would also assist them in performing well and this hypothesis was supported. Our results affirm the practical importance of small firms developing both the ability and willingness to respond to changing demands of the buyer in the areas of delivery, volume, and modification. While data-driven decision making is efficient, a balance of information processing abilities and human interaction may be better suited for customer service and interorganizational trust. Effective supply chain management can serve a strategic advantage for both large and small businesses; consequently we need to have an understanding of the best practices that promote more long-term buyer-supplier relationships.

## **Future Research**

Given the newness of the constructs presented here, future research needs to be conducted to further verify the constructs and examine their applicability to broader organizational settings. Supplier flexibility, similar to supply chain (manufacturing) flexibility, is examined as a multi-dimensional construct; additional efforts to refine the construct (what it includes and what it does not) are likely warranted. In addition, the role of supplier flexibility within the larger concept of supply chain flexibility should be considered in future studies. Also of interest is the degree to which supplier flexibility is actually dependent upon, or related to, the concept of organizational efficacy. In what ways is an organization's ability to be flexibly impacted by the collective perceptions of its employees?

Extensive research exists that supports the importance of both efficacy in individual and group performance and flexibility in organizational success; the current study examines extensions to both of these lines of research in a novel fashion. Although limited to small and medium sized firms and representing only an initial foray into this realm, by expanding the concept of individual and group efficacy to the organizational realm and exploring the concept of supply chain flexibility at a more micro level – that of supplier flexibility – new ground is broken and the foundation for significant future research is begun.

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