

Motives behind Strategic Alliance Formation among Medium-Sized Manufacturing Firms in Tanzania

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Received: July 31, 2014

Accepted: August 7, 2014

Online Published: August 18, 2014

doi:10.5430/jms.v5n3p76

URL: <http://dx.doi.org/10.5430/jms.v5n3p76>

Abstract

Research on strategic alliance motives has attracted a great attention as firms strive to become market leaders. One critical area is to assess the contribution of these motives to strategic alliance formation. Most studies on alliance motives concentrate on international strategic alliances that involve large or multinational corporations from developed economies. Little research has been done on Small and Medium Enterprises (SMEs), particularly Medium-Sized Enterprises (MEs) from the manufacturing industry in least developed economies like Tanzania. This study reveals the contribution of alliance motives to strategic alliance formation. It seeks to find factors that would be taken into consideration by Tanzania's medium-sized manufacturing firms before forming strategic alliances. The study finds firms' views on the motives that would drive their decisions regarding strategic alliance formation. A cross-sectional survey design and multistage probability sampling technique enabled the participation of 398 CEOs from three zones of Tanzania whose views were collected through questionnaires. Through multiple regression analysis, motives related to resource accessibility, competitive advantage, firm's improvements as well as cost and risk reduction are revealed and found influencing firms' willingness to form strategic alliances. In order to become market leaders through strategic alliances, manufacturing MEs should consider motives that would influence rivals and other players to collaborate in order to make effective decisions regarding strategic alliances. Nevertheless, competitive business environments must be created by all manufacturing and alliance stakeholders in Tanzania in order to foster effective strategic alliances among manufacturing MEs.

Keywords: strategic alliances, alliance motives, manufacturing medium-sized firms, multiple regression analysis, Tanzania

1. Introduction

In today's world of business pressured by stiff competition, vast technological advancement and innovation in business operations and collaborations between firms in order to sustain their capabilities to compete are taking place (Das, 2006; Hughes & Beasley, 2008). In this kind of environment, companies need partners to survive (Stefanović & Dukić, 2011) that is why Deloitte (2005) asserts that the rate of alliance formation is expected to accelerate. Strategic alliances are arrangements or partnerships which create interdependence or inter-firm agreements between two (Hagedoorn, Letterie, & Palm, 2011) or more autonomous companies, corporations or business units aimed at achieving competitive advantage and strategically significant objectives which make continuing mutual contributions and benefits to the partners (Dussauge, Garrette, & Mitchell, 2004; Todeva & Knoke, 2005; Elmuti & Kathawala, 2001; Elmuti, Abebe, & Nicolosi, 2005). Mutual benefits are brought to the partners by coordinating skills, resources and assets jointly (Hagedoorn, Letterie, & Palm, 2011; Todeva & Knoke, 2005; Dussauge, Garrette, & Mitchell, 2004; Das & Teng, 2000). Strategic alliances can help organizations which lack particular resources and assets to benefit through linking to those firms with complimentary resources and assets (Sompong, Smith, & Igel, 2012). Ireland, Hitt and Vaidyanath (2002) suggest that there is a relationship between strategic alliance and competitive advantage. It is noted further that strategic alliances may influence firms' performance and survival chances (Todeva & Knoke, 2005) and pave way for accessing new markets, products and opportunities (Sompong, Smith, & Igel, 2012; Koza & Lewin, 2000).

Although extensive research has been conducted on strategic alliance motives (Chen & Tseng, 2005; Van Gils & Zwart, 2009; Zineldin & Dodourova, 2005; Elmuti & Kathawala, 2001; Al Khattab, 2012; Hagedoorn, Letterie, & Palm, 2011;

Elmuti, Abebe, & Nicolosi, 2005; Todeva & Knoke, 2005), little has been done on how firms' willingness to form strategic alliances is influenced by these motives. Besides, much research has concentrated on strategic alliances in the developed economies with large or multinational firms which hold abundant resources while few concentrate on SMEs in the least developed economies. However, firms from the developing countries can develop strategic alliances among themselves and be able to access new technologies and new markets (Chen & Chen, 2002), enhance innovation, seek value addition and cost reduction in the supply chain (Nevin, 2011).

This study focuses on alliance motives that would influence firms from least developed economies like Tanzania to form strategic alliances. As already mentioned, strategic alliances can create firms' competitive advantages. Understanding alliance motives will eventually enable firms from least developed economies to collaborate effectively and use strategic alliances to derive their performance in the market and boost their countries' economies. More specifically, this study focuses on medium-sized manufacturing firms. This is due to the fact that, to a great extent, economies of many developing countries are dominated by SMEs. This accounts for 99 percent of all firms (Fjose, Grünfeld, & Green, 2010). Expectedly, in Tanzania the number of large-scale manufacturers is remarkably lower than that of SMEs (The Government of the United Republic of Tanzania [URT] & The United Nations Industrial Development Organization [UNIDO], 2012) which account for more than 95 percent of all firms in Sub-Saharan Africa (Fjose, Grünfeld, & Green, 2010). The study relies on the manufacturing companies since they can provide useful information on strategic alliances (Zineldin & Dodourova, 2005). This study investigates the influence of alliance motives on firms' willingness to form strategic alliances. Through a multiple regression analysis, the study establishes a linear relationship between alliance motives and firms' willingness to form strategic alliances. Specifically, it seeks to investigate the influences of:

1. resource accessibility-based motives on firms' willingness to form strategic alliances
2. competitive advantage-based motives on firms' willingness to form strategic alliances
3. improvement-based motives on firms' willingness to form strategic alliances
4. cost and risk reduction-based motives on firms' willingness to form strategic alliances

Aided by the literature review, we list down alliance motives (independent variables) and categorize them into different classes. The first class includes motives related to resource accessibility such as gaining access to new markets, gaining access to new technology and gaining access to future business. The second class includes motives related to competitive advantages such as searching for new efficiencies and competencies, searching for innovation in products and aiming at intensifying competitive positioning. The third class includes motives related to improvement purposes, such as enhancing company's productive capacities, profit, image and supply processes. The fourth class is the one with alliance motives related to cost and risk reduction such as reduction of: cost, financial risk, and uncertainties; and sharing of costs of research and development. From each class, we find independent variables and one uniform dependent variable (firm's willingness to form strategic alliances) whose linear relationship is established through a multiple regression analysis.

2. Theoretical Development

2.1 The Resource-Based View Perspective

According to Kraaijenbrink, Spender and Groen (2010), the Resource-Based View is one of the most cited theories in management discipline. A resource is anything which could be considered as a strength (Barney, 1991; Wernefelt, 1984) or weakness of a given business organization (Wernefelt, 1984). These include: skilled staff (Mills & Platts, 2003; Wernefelt, 1984; Barney, 1991), assets such as factory building (Mills & Platts, 2003; Barney, 1991) machinery, efficient procedures and organizational processes (Wernefelt, 1984; Barney, 1991), capital, business contacts, brand names, knowledge (Wernefelt, 1984; Barney, 1991), firm attributes and information (Barney, 1991). The Resource-Based View stresses the internal aspects of a firm and suggests that there is a relationship between firm's competitive strategy and its accumulated resources (Das & Teng, 2000). As pointed out by Barney (1991), a firm's sustained competitive advantage is influenced by resources and capabilities that can effectively be utilized by the particular firm. Generally, the Resource-based View explains what Das and Teng (2000, p. 32) conclude that "what a firm possesses would determine what it accomplishes". Through strategic alliances, firms can access resources to achieve competitive advantages (Das & Teng, 2000). Sheppard (1995) adds that the supply of resources is critical to firm's survival.

Through Resource-Based View, various motives behind the formation of strategic alliances can be seen. The motives behind the formation of strategic alliances include: gaining access to the resources (Al Khattab, 2012), new technology and markets (Elmuti & Kathawala, 2001), significant technological information (Hagedoorn, Letterie, &

Palm, 2011), opportunities for technological transfer (Elmuti, Abebe, & Nicolosi, 2005) and future business (Al Khattab, 2012). From this context, the following three hypotheses related to resource accessibility-based motives are proposed:

- i. There is a positive relationship between an intention to gain access to new markets and the firm's willingness to form strategic alliances
- ii. There is a positive relationship between an intention to gain access to new technology and the firm's willingness to form strategic alliances
- iii. There is a positive relationship between an intention to gain access to future business and the firm's willingness to form strategic alliances

Firms will also form strategic alliances to search for competitive advantages (Todeva & Knoke, 2005; Elmuti & Kathawala, 2001; Al Khattab, 2012), new efficiencies and competencies (Todeva & Knoke, 2005; Al Khattab, 2012), and interdependence (Van Gils & Zwart, 2009). Others include the growing global competitiveness and innovation in products (Elmuti, Abebe, & Nicolosi, 2005), intensifying competitive positioning (Chen & Tseng, 2005; Zineldin & Dodourova, 2005) and diversifying marketing activities (Chen & Tseng, 2005). From this context, the following three hypotheses related to competitive advantage-based motives are proposed:

- i. There is a positive relationship between an intention to search for new efficiencies and competencies and the firm's willingness to form strategic alliances
- ii. There is a positive relationship between an intention to search for innovation in products and the firm's willingness to form strategic alliances
- iii. There is a positive relationship between an intention to intensify competitive positioning and the firm's willingness to form strategic alliances

Firms would also form strategic alliances to enhance their business achievements, image (Chen & Tseng, 2005), productive capacities (Al Khattab, 2012), supply processes as well as profit (Zineldin & Dodourova, 2005) which is likely to increase when the total costs go down. Again, from this perspective, the following four hypotheses related to improvement-based motives are proposed:

- i. There is a positive relationship between an intention to enhance company's productive capacities and the firm's willingness to form strategic alliances
- ii. There is a positive relationship between an intention to enhance company's profit and the firm's willingness to form strategic alliances
- iii. There is a positive relationship between an intention to enhance company's image and the firm's willingness to form strategic alliances
- iv. There is a positive relationship between an intention to enhance company's supply processes and the firm's willingness to form strategic alliances

2.2 The Transaction Cost Theory

The Transaction Cost Theory or Transaction Cost Economics views the transaction as the essential unit of analysis in business organizations (Riordan & Williamson, 1985). The theory attempts to explain both simple and complex transactions and modes of governance (Williamson, 1997), including how governance structures are aligned (Riordan & Williamson, 1985) and the direction of these transactions and their significance (Williamson, 1997). The Transaction Cost Economics emphasizes cost minimization (Das & Teng, 2000) that is why Williamson (1979) points out that the organization of economic activity is pertinent when transaction costs are significant. According to transaction cost economics, the firm will opt for the governance form that plays down transaction and production costs (Martins, Serra, Leite, Ferreira, & Li, 2010). Generally, the theory focuses on firm's efficiency, operation and structure (Williamson, 1981). The theory has been used broadly to investigate alliance outcomes (Judge & Dooley, 2006). The theory can help to find out why firms form strategic alliances. Many firms form strategic alliances aiming at reducing cost (Chen & Tseng, 2005; Van Gils & Zwart, 2009; Zineldin & Dodourova, 2005), minimizing financial risk (Elmuti & Kathawala, 2001), reducing uncertainties (Al Khattab, 2012; Hagedoorn, Letterie, & Palm, 2011) and sharing the costs of research and development (Elmuti & Kathawala, 2001; Elmuti, Abebe, & Nicolosi, 2005). From this context, the following four hypotheses related to cost and risk reduction-based motives are proposed:

- i. There is a positive relationship between an intention to reduce financial risk and the firm's willingness to form strategic alliances

- ii. There is a positive relationship between an intention to reduce cost and the firm's willingness to form strategic alliances
- iii. There is a positive relationship between an intention to reduce uncertainties and the firm's willingness to form strategic alliances
- iv. There is a positive relationship between an intention to share the costs of research and development and the firm's willingness to form strategic alliances

Motives behind strategic alliance formation vary. Zineldin and Dodourova (2005) examine the motives behind strategic alliance formation and how manufacturers rate various motives for alliance formation and conclude that strategic and managerial motivations are more important than financial and technological motives. Kauser and Shaw (2004) aim at identifying the objective of the strategic alliance and the most common factors influential in the decision to form an alliance. They conclude that most firms form strategic alliances for marketing-related activities, financial costs, risk issues, access to market and market share improvement. This variation can still hold water even when the motives are grouped into different classes as used by Van Gils and Zwart (2009) when examining the importance of firm, environmental and partner motives on the formation of strategic alliances and conclude that the formation of strategic alliances is influenced by a blend of organizational, partner and industry-related motives. However, all the three groups of motives are interconnected (Van Gils & Zwart, 2009). As already pointed out, different motives exist and their levels of influence to the formation of strategic alliances vary. This might also be contributed by different methodologies used in studies about motives behind strategic alliance formation. For example, as we have seen above, Zineldin and Dodourova (2005), Kauser and Shaw (2004) and Van Gils and Zwart (2009) research on similar objectives using different methodologies. When investigating the most common factors that influence formation of strategic alliances, Kauser and Shaw (2004) adopt factor analysis while Van Gils and Zwart (2009) use a conjoint analysis. The results might also be influenced by the use of a case and survey-based study involving large manufacturers (Zineldin & Dodourova, 2005) different from that involving small and medium-sized operations (Van Gils & Zwart, 2009) or international strategic operations (Kauser & Shaw, 2004).

Strategic alliance studies adopt different methodologies and statistical tools of analysis depending on different factors such as study objectives, study design, sample size, respondents etc. For example, most of these studies adopt questionnaires and in-depth interviews (Zineldin & Dodourova, 2005; Kelly, Schaan, & Joncas, 2002; Sompong, Smith, & Igel, 2012; Joia & Malheiros, 2009; Feller, Parhankangas, Smeds, & Jaatinen, 2013; Fock, Woo, & Hui, 2005) to seek information from knowledgeable top level managers/owners of the firms (Mason, 2007; Kelly, Schaan, & Joncas, 2002; Delerue, 2005; Van Gils & Zwart, 2009; Chen & Tseng, 2005). Most of these studies also adopt an exploratory research to both build the theories (Tregear & Gorton, 2009; Kelly, Schaan, & Joncas, 2002; Mason, 2007) and formulate the studies' hypotheses (Delerue, 2005; Joia & Malheiros, 2009) which can be tested through a chi-square technique (Feller, Parhankangas, Smeds, & Jaatinen, 2013) and structural equation modelling (Feller, Parhankangas, Smeds, & Jaatinen, 2013; Schilke & Goerzen, 2010). This study however, adopts a multiple regression analysis which links alliance motives and firms' willingness to form strategic alliances.

3. Methodology

3.1 The Study Area

This study was conducted in all the regions of Tanzania Mainland. The regions are classified into eight geographic zones: Western: (Tabora, Kigoma), Northern: (Kilimanjaro, Tanga, Arusha), Central: (Dodoma, Singida, Manyara), Southern Highlands: (Njombe, Iringa, Ruvuma), Lake: (Kagera, Mwanza, Mara, Shinyanga, Geita, Simiyu), Eastern: (Dar es Salaam, Pwani, Morogoro), Southern: (Lindi, Mtwara) and Southwest Highlands: (Rukwa, Katavi, Mbeya).

3.2 Target Population

Medium-sized manufacturing enterprises took part in this study. Manufacturing industry in Tanzania is defined by National Bureau of Statistics (NBS) as those dealing with food and beverages; textiles and leather; wood and wood products; paper and paper products; chemical, petroleum and plastic products; pottery, glass and non-metallic products; basic metal industries; and fabricated metal products, machinery and equipment (National Bureau of Statistics [NBS], 2013). According to URT (2003) medium-sized firms employ between 50 and 99 people or use capital investment between Tshs.200 million and Tshs.800 million. The 2012 National Baseline Survey Report for Micro, Small, and Medium Enterprises in Tanzania indicates that manufacturing firms with more than 5 employees were 23,965 (URT, 2012). According to Small and Medium Enterprise Development Policy, this number constitutes the small and medium enterprises (URT, 2003). The report (URT, 2012) does not provide the total number of manufacturing MEs in Tanzania. However, a list of medium-sized manufacturing enterprises that was used in the

sampling procedure was established from different institutions of Tanzania such as Small Industries Development Organization (SIDO), Tanzania Food and Drugs Authority (TFDA) and Business Registrations and Licensing Agency (BRELA). This study defines medium-sized manufacturing firms based on the number of people employed.

3.3 Sample Size

To have a minimum variability we assume that about 50 percent of the medium-sized manufacturing enterprises operate so as to obtain the optimum number of manufacturing MEs (n) sampled. This assumption gives the optimum sample size that could be taken (Cochran, 1977). It is also assumed that the committed error is 4.45% and the significance level, α of 5%. The conservative sample size is computed as follows:

$$n = \frac{Z^2_{\alpha/2} pq}{e^2} \quad (1)$$

Where $\alpha = 0.05$ $p = 0.5$ $q = 1 - p = 0.5$ $e = 0.0445$ $Z_{\alpha/2} = 1.96$

The optimum number of medium-sized manufacturing firms selected for the sample is 485.

3.4 Sampling Procedure

The study makes use of cross-sectional survey design. A multistage probability sampling technique is adopted. All the regions of Tanzania are stratified into eight (8) zones as shown above. Five zones are purposively selected followed by a random selection of three zones: Eastern, Northern and Lake. Thereafter, systematic sampling is used to select the required number of manufacturing MEs from each zone as shown in Table 1. Probability Proportional to Size (PPS) is therefore used to determine the number of medium-sized firms to be included in the sample from each zone.

Table 1. Number of MEs selected among the 8-zones

Zone	Number of MEs selected (Sample size)
Eastern	287
Northern	103
Lake	95
Total	485

3.5 Data Collection and Analysis

Data were collected through four hundred and eighty five (485) questionnaires with CEOs of the medium-sized manufacturing firms from three zones as shown in Table 1. Each CEO represented his/her company and one questionnaire was filled by one company. Three hundred and ninety eight (398) questionnaires were returned and found useful for the purpose of the study. This represents 82% of the total questionnaires distributed (see Table 2). These questionnaires sought information on how alliance motives related to competitive advantages, cost and risk, resource accessibility and that for improvement purposes influence firms' willingness to form strategic alliances. A multiple regression analysis was used to find the particular influence aided by a statistical tool PASW 16 (SPSS 16).

4. Research Results

The 398 medium-sized enterprises which were able to fill and return the questionnaires have an average of 11 years (mean=10.9749) in operation. We can estimate that these firms were established in 2003. The findings indicate that the 398 firms employ an average of 60 employees (mean= 60.8719) which conforms to the range of 50 and 99 employees of a medium-sized enterprise defined by the Small and Medium Enterprise Development Policy (URT, 2003). The number of medium-sized enterprises that filled and returned the questionnaires is as follows:

Table 2. Number of questionnaires returned

Zone	Questionnaires returned	Response rate (%)
Eastern Zone	244 out of 287	85.017
Northern Zone	87 out of 103	84.466
Lake Zone	67 out of 95	70.526
Total	398 out of 485	82.062

4.1 Hypothesis Testing

4.1.1 The Influence of Alliance Motives Related to Accessibility of Resources

In determining the influence of alliance motives related to accessibility of resources on firm's willingness to form strategic alliances, we have the following hypotheses;

$$H_0: \beta_1 = 0$$

$$H_1: \beta_1 \neq 0$$

$$H_0: \beta_2 = 0$$

$$H_1: \beta_2 \neq 0$$

$$H_0: \beta_3 = 0$$

$$H_1: \beta_3 \neq 0$$

Where β_0 , β_1 , β_2 , and β_3 are coefficients for Constant, X_1 , X_2 and X_3 respectively

X_1 denotes "aiming at gaining access to new markets"

X_2 denotes "aiming at gaining access to new technology"

X_3 denotes "aiming at gaining access to future business"

Y denotes "firm's willingness to form strategic alliances"

CEOs were asked to rate their level of agreement with X_1 , X_2 and X_3 using a five-point scale (1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree). They were also asked to rate Y in percentage (0 to 100). From these variables, a multiple regression equation is formulated as

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad (2)$$

Table 3. Multiple regression output for a linear relationship between Y and X_1 , X_2 , X_3

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.514 ^a	.264	.259	22.04834				
a. Predictors: (Constant), X_1 , X_2 , X_3								
ANOVA ^b								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	68815.447	3	22938.482	47.186	.000 ^a		
	Residual	191534.877	394	486.129				
	Total	260350.324	397					
a. Predictors: (Constant), X_1 , X_2 , X_3								
b. Dependent Variable: Y								
Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients		95% Confidence Interval for B			
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	
1	(Constant)	-2.892	6.504		-.445	.657	-15.679	9.895
	X_1	4.772	1.413	.168	3.376	.001	1.993	7.551
	X_2	9.994	1.392	.368	7.181	.000	7.258	12.730
	X_3	2.536	1.516	.084	1.673	.095	-.444	5.516
a. Dependent Variable: Y								

As shown in Table 3, X_1 , X_2 and X_3 statistically significantly predict Y, $F(3,394)=47.186$, $p<0.05$. We can also see that X_1 , X_2 and X_3 explain 26.4% of the variability of Y. We therefore set a new regression equation as

$$Y = -2.892 + 4.772X_1 + 9.994X_2 + 2.536X_3 \quad (3)$$

From the first hypothesis ($H_0: \beta_1 = 0, H_1: \beta_1 \neq 0$) we reject H_0 since $\beta_1(4.772)$ is statistically significantly different from 0 ($p < 0.05$). Regarding the second hypothesis ($H_0: \beta_2 = 0, H_1: \beta_2 \neq 0$) we reject H_0 since $\beta_2(9.994)$ is statistically significantly different from 0 ($p < 0.05$). However, from the third hypothesis ($H_0: \beta_3 = 0, H_1: \beta_3 \neq 0$) we do not reject H_0 since $\beta_3(2.536)$ is not statistically significantly different from 0 ($p > 0.05$).

4.1.2 The Influence of Alliance Motives Related to Competitive Advantages

In determining the influence of alliance motives related to competitive advantages on firm's willingness to form strategic alliances, we have the following hypotheses;

$$H_0: \mathcal{L}_1 = 0$$

$$H_1: \mathcal{L}_1 \neq 0$$

$$H_0: \mathcal{L}_2 = 0$$

$$H_1: \mathcal{L}_2 \neq 0$$

$$H_0: \mathcal{L}_3 = 0$$

$$H_1: \mathcal{L}_3 \neq 0$$

Where $\mathcal{L}_0, \mathcal{L}_1, \mathcal{L}_2$ and \mathcal{L}_3 are coefficients for Constant, X_{11}, X_{12} and X_{13} respectively

X_{11} denotes "searching for new efficiencies and competencies"

X_{12} denotes "searching for innovation in products"

X_{13} denotes "aiming at intensifying competitive positioning"

Y denotes "firm's willingness to form strategic alliances"

CEOs were asked to rate their level of agreement with X_{11}, X_{12} and X_{13} using a five-point scale (1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree). They were also asked to rate Y in percentage (0 to 100). From these variables, a multiple regression equation is formulated as

$$Y = \mathcal{L}_0 + \mathcal{L}_1 X_{11} + \mathcal{L}_2 X_{12} + \mathcal{L}_3 X_{13} \quad (4)$$

Table 4. Multiple regression output for a linear relationship between Y and X_{11}, X_{12}, X_{13}

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.789 ^a	.623	.620	15.79353				
a. Predictors: (Constant), X_{11}, X_{12}, X_{13}								
ANOVA ^b								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	162072.689	3	54024.230	216.586	.000 ^a		
	Residual	98277.636	394	249.436				
	Total	260350.324	397					
a. Predictors: (Constant), X_{11}, X_{12}, X_{13}								
b. Dependent Variable: Y								
Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients		95% Confidence Interval for B			
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	
1	(Constant)	-24.349	4.252		-5.727	.000	-32.707	-15.990
	X_{11}	20.980	1.153	.742	18.203	.000	18.714	23.246
	X_{12}	1.465	.983	.059	1.490	.137	-.468	3.397
	X_{13}	.655	.828	.026	.791	.429	-.973	2.284
a. Dependent Variable: Y								

As shown in Table 4, X_{11}, X_{12} and X_{13} statistically significantly predict Y, $F(3,394)=216.586, p < 0.05$. We can also reveal that X_{11}, X_{12} and X_{13} explain 62.3% of the variability of Y. We therefore set a new regression equation as;

$$Y = -24.349 + 20.980X_{11} + 1.465X_{12} + 0.655X_{13} \quad (5)$$

From the first hypothesis ($H_0: \mathcal{L}_1 = 0, H_1: \mathcal{L}_1 \neq 0$) we reject H_0 since $\mathcal{L}_1(20.980)$ is statistically significantly different from 0 ($p < 0.05$). However, regarding the second hypothesis ($H_0: \mathcal{L}_2 = 0, H_1: \mathcal{L}_2 \neq 0$) we do not reject H_0 since $\mathcal{L}_2(1.465)$ is not statistically significantly different from 0 ($p > 0.05$). Also, from the third hypothesis ($H_0: \mathcal{L}_3 = 0, H_1: \mathcal{L}_3 \neq 0$) we do not reject H_0 since $\mathcal{L}_3(0.655)$ is not statistically significantly different from 0 ($p > 0.05$).

4.1.3 The Influence of Alliance Motives Related to Improvement Purposes

In determining the influence of alliance motives related to improvement purposes on firm's willingness to form strategic alliances, we have the following hypotheses;

$H_0: \omega_1 = 0$

$H_1: \omega_1 \neq 0$

$H_0: \omega_2 = 0$

$H_1: \omega_2 \neq 0$

$H_0: \omega_3 = 0$

$H_1: \omega_3 \neq 0$

$H_0: \omega_4 = 0$

$H_1: \omega_4 \neq 0$

Where $\omega_0, \omega_1, \omega_2, \omega_3$ and ω_4 are coefficients for Constant, X_{21}, X_{22}, X_{23} and X_{24} respectively

X_{21} denotes "aiming at enhancing company's productive capacities"

X_{22} denotes "aiming at enhancing company's profit"

X_{23} denotes "aiming at enhancing company's image"

X_{24} denotes "aiming at enhancing supply processes"

Y denotes "firm's willingness to form strategic alliances"

CEOs were asked to rate their level of agreement with X_{21}, X_{22}, X_{23} and X_{24} using a five-point scale (1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree). They were also asked to rate Y in percentage (0 to 100). From these variables, a multiple regression equation is formulated as

$$Y = \omega_0 + \omega_1 X_{21} + \omega_2 X_{22} + \omega_3 X_{23} + \omega_4 X_{24} \quad (6)$$

Table 5. Multiple regression output for a linear relationship between Y and $X_{21}, X_{22}, X_{23}, X_{24}$

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.517 ^a	.267	.260	22.03146				
a. Predictors: (Constant), $X_{21}, X_{22}, X_{23}, X_{24}$								
ANOVA ^b								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	69593.851	4	17398.463	35.845	.000 ^a		
	Residual	190756.473	393	485.385				
	Total	260350.324	397					
a. Predictors: (Constant), $X_{21}, X_{22}, X_{23}, X_{24}$								
b. Dependent Variable: Y								
Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients	95% Confidence Interval for B				
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	
1 (Constant)	-2.993	6.273		-.477	.634	-15.326	9.340	
	X_{21}	6.267	1.425	.238	4.398	.000	3.465	9.069
	X_{22}	3.562	1.359	.134	2.621	.009	.890	6.234
	X_{23}	.533	1.153	.022	.462	.644	-1.733	2.799
	X_{24}	7.643	1.321	.279	5.785	.000	5.046	10.240
a. Dependent Variable: Y								

As shown in Table 5, X_{21} , X_{22} , X_{23} and X_{24} statistically significantly predict Y , $F(4,393) = 35.845$, $p < 0.05$. We can also see that X_{21} , X_{22} , X_{23} and X_{24} explain 26.7% of the variability of Y . We therefore derive a new regression equation as

$$Y = -2.993 + 6.267X_{21} + 3.562X_{22} + 0.533X_{23} + 7.643X_{24} \quad (7)$$

From the first hypothesis ($H_0: \omega_1 = 0$, $H_1: \omega_1 \neq 0$) we reject H_0 since $\omega_1(6.267)$ is statistically significantly different from 0 ($p < 0.05$). Also, regarding the second hypothesis ($H_0: \omega_2 = 0$, $H_1: \omega_2 \neq 0$) we reject H_0 since $\omega_2(3.562)$ is statistically significantly different from 0 ($p < 0.05$). However, from the third hypothesis ($H_0: \omega_3 = 0$, $H_1: \omega_3 \neq 0$) we do not reject H_0 since $\omega_3(0.533)$ is not statistically significantly different from 0 ($p > 0.05$). But regarding the fourth hypothesis ($H_0: \omega_4 = 0$, $H_1: \omega_4 \neq 0$) we reject H_0 since $\omega_4(7.643)$ is statistically significantly different from 0 ($p < 0.05$).

4.1.4 The Influence of Alliance Motives Related to Reduction of Cost and Risk

In determining the influence of alliance motives related to reduction of cost and risk on firm's willingness to form strategic alliances, we have the following hypotheses;

$$H_0: \lambda_1 = 0$$

$$H_1: \lambda_1 \neq 0$$

$$H_0: \lambda_2 = 0$$

$$H_1: \lambda_2 \neq 0$$

$$H_0: \lambda_3 = 0$$

$$H_1: \lambda_3 \neq 0$$

$$H_0: \lambda_4 = 0$$

$$H_1: \lambda_4 \neq 0$$

Where λ_0 , λ_1 , λ_2 , λ_3 and λ_4 are coefficients for Constant, X_{31} , X_{32} , X_{33} and X_{34} respectively

X_{31} denotes "aiming at reducing financial risk"

X_{32} denotes "aiming at reducing cost"

X_{33} denotes "aiming at reducing uncertainties"

X_{34} denotes "aiming at sharing the costs of research and development"

Y denotes "firm's willingness to form strategic alliances"

CEOs were asked to rate their level of agreement with X_{31} , X_{32} , X_{33} and X_{34} using a five-point scale (1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree). They were also asked to rate Y in percentage (0 to 100). From these variables, a multiple regression equation is formulated as

$$Y = \lambda_0 + \lambda_1 X_{31} + \lambda_2 X_{32} + \lambda_3 X_{33} + \lambda_4 X_{34} \quad (8)$$

Table 6. Multiple regression output for a linear relationship between Y and X₃₁, X₃₂, X₃₃, X₃₄

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.404 ^a	.163	.155	23.54704				
a. Predictors: (Constant), X ₃₁ , X ₃₂ , X ₃₃ , X ₃₄								
ANOVA ^b								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	42446.280	4	10611.570	19.138	.000 ^a		
	Residual	217904.044	393	554.463				
	Total	260350.324	397					
a. Predictors: (Constant), X ₃₁ , X ₃₂ , X ₃₃ , X ₃₄								
b. Dependent Variable: Y								
Coefficients ^a								
Model	Unstandardized Coefficients		Standardized Coefficients		95% Confidence Interval for B			
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	
1	(Constant)	23.766	6.017		3.950	.000	11.937	35.595
	X ₃₁	3.824	1.438	.159	2.660	.008	.998	6.651
	X ₃₂	5.481	1.417	.228	3.868	.000	2.695	8.267
	X ₃₃	-1.176	1.300	-.047	-.905	.366	-3.732	1.379
	X ₃₄	3.981	1.200	.163	3.317	.001	1.621	6.340
a. Dependent Variable: Y								

As shown in Table 6, X₃₁, X₃₂, X₃₃ and X₃₄ statistically significantly predict Y, F(4,393)=19.138, p<0.05. We can also reveal that X₃₁, X₃₂, X₃₃ and X₃₄ explain 16.3% of the variability of Y. We therefore set a new regression equation as;

$$Y = 23.766 + 3.824X_{31} + 5.481X_{32} - 1.176X_{33} + 3.981X_{34} \quad (9)$$

From the first hypothesis (H₀: λ₁ =0, H₁: λ₁ ≠0) we reject H₀ since λ₁(3.824) is statistically significantly different from 0 (p<0.05). Regarding the second hypothesis (H₀: λ₂ =0, H₁: λ₂ ≠0) we reject H₀ since λ₂(5.481) is statistically significantly different from 0 (p<0.05). However, from the third hypothesis (H₀: λ₃ =0, H₁: λ₃ ≠0) we do not reject H₀ since λ₃(-1.176) is not statistically significantly different from 0 (p>0.05). But from the fourth hypothesis (H₀: λ₄ =0, H₁: λ₄ ≠0) we reject H₀ since λ₄(3.981) is statistically significantly different from 0 (p<0.05).

5. Discussion

As already been pointed out, one of the motives to form strategic alliances is to access resources. In this paper we define resources as new markets, new technology, and future business. Among the three variables, two are able to predict firms' willingness to form strategic alliances. This asserts that Tanzania's medium-sized manufacturing firms are influenced by an assurance on access to both new markets and new technology before entering into strategic alliances. The findings reveal that access to future business does not influence firms' interests in developing strategic alliances. The findings also reveal that among the three variables defining competitive advantages, only one is able to predict the firm's willingness to form strategic alliances. This is "searching for new efficiencies and competencies". It is observed that Tanzania's manufacturing firms would like to be assured of the increase in efficiencies and competencies before developing any strategic alliances. Their aim is to form strategic alliances which will foster their new ability to compete. On the other hand, firms' intention to form strategic alliances is not to intensify their competitive positioning. Their interests are on new competencies (new positioning). The findings indicate that firms do not consider innovation of their products as one of their motives to form strategic alliances.

Areas which would be improved by strategic alliances among Tanzania's medium-sized manufacturing firms include: company's productive capacities, profit, image and supply processes. The findings indicate that companies would form strategic alliances if there are expectations on improvement of their productive capacities, profit and supply

processes. However, the findings indicate that firm's decision to form strategic alliances is not fostered by expectations to enhance partner's image. The findings further reveal that among the four variables explaining the reduction of cost and risk, only one is not able to predict the firms' willingness to form strategic alliances. This is reduction of uncertainties. It is observed that the intention of firms to develop strategic alliances is not influenced by prospects on reduction of uncertainties. Tanzania's medium-sized manufacturing firms consider prospects on both reduction of cost and financial risk as some of the key factors which influence their decisions to enter into strategic alliances. They would also seek an assurance on sharing of costs of research and development before developing strategic alliances.

The findings reveal several motives which foster strategic alliances among medium-sized manufacturing companies in Tanzania. These include access to new markets, access to new technology, searching for new efficiencies and competencies, enhancement of company's productive capacities, enhancement of company's profit, enhancement of company's supply processes, reduction of financial risk, reduction of cost and sharing research and development costs. As a manufacturing firm, it is evident that once the new technology has been acquired, the firm's productive capacities are likely to improve. This leads to reduction of both costs and financial risk and increased profit hence experienced efficiencies and competencies. Also, through research and development, manufacturing firms are likely to develop new technology, supply processes and new markets. Although research and development is key to growth in any manufacturing sector, its associated costs cannot be afforded by medium-sized companies particularly from a least developed economy like Tanzania. That is why firms consider sharing of research and development costs as a key driver in formulating their strategic alliances.

6. Conclusion

From these findings, we can conclude that Tanzania medium-sized manufacturing firms would form strategic alliances to access new markets and technology, search new efficiencies and competencies, enhance their productive capacities, profit and supply processes, reduce cost and financial risk and share research and development costs. This paper concludes that medium-sized enterprises in Tanzania have opportunities to address most of the challenges facing their growth and survival such as access to finance, market, information and technology. These challenges can be addressed if they effectively consider factors that would influence their rivals and other players to collaborate and make effective decisions regarding strategic alliances. Policy makers, including the government, can also use this study to create competitive business environments which foster firms' ability to collaborate. However, this is possible if all stakeholders such as manufacturing firms, respective government institutions, regulators, suppliers and the academia take part. This study opens up a room for researchers to further address key issues on strategic alliance motives in various sectors of least developed countries.

Acknowledgements

I express my gratitude to Maagi Mapesi Thomas and Adonijah Abayo for their helpful comments and suggestions.

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