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Strategic Management Practices of Agribusiness Firms in Tanzania

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Abstract

All firms need to work out strategic plans to exploit the existing market, but they differ in their capacity to implement and manage strategies. Considering the industrial organization and resource-based views in the strategic management literature, we understand that firm attributes, resources and external environmental factors are critical links to strategic practices. With regard to African agribusiness firms, there is scant research on how these factors determine the successful application of strategic management practices. Therefore, this study uses empirical data from 229 agribusiness firms in Tanzania to obtain insights into the determinants of their choice of strategic management practices. The results show significantly that better strategic actions reside in the capabilities of firm managers, whereas many external factors, such as access to public infrastructure, did not turn out to have a significant influence. The findings have interesting implications for the management of agribusiness firms in African countries and other developing and emerging economies.

Introduction

Competitiveness in global markets has required firms to think, plan and make decisions strategically. In this case a series of practices such as environmental analysis, strategy formulation, implementation, evaluation and control of strategic plans within firms are applied through strategic management (STM) approaches (Wheelen and Hunger 2006). Strategic management consists of actions that provide a framework for the long-term development of a company and result in the achievement of a firm's objectives (Hitt, Ireland, and Hoskisson 2009). Various studies have revealed that small and medium-sized firms differ from large companies with regard to their strategic management practices (Welsh and White 1981) and often lack strategic awareness (Gibb and Scott 1985). Several studies of small firms have attempted to link STM and firm performance (Andrews, Boyne, and Walker 2006; Beaver 2002; Bracker and Pearson 1986; Chen 2005; Georgellis, Joyce, and Woods 2000; Stacey 2011). Schwenk and Shrader (1993) examined 14 research studies and showed a positive, significant link between the planning activities of small firms and their performance. However, success depends on who carries out the planning in a given firm and a proper assessment of the firm's resources and environmental conditions (Stacey 2011). Since relatively few agribusiness studies discuss firms' strategic management practices, this study seeks to fill that gap by examining STM application in food processing firms (Trienekens 2011). Greater attention is needed to 'strategic management' explanations of agribusiness firms (Mugera 2012; Ng and Siebert 2009) especially in the context of developing and emerging economies since companies from these economies have only rarely been addressed by strategic management research.

STM practices are sometimes considered less relevant for small and medium-sized firms, especially in the agribusiness sector, because it is thought that a systematic STM is necessary only for large corporations (Chen 2005; Fard et al. 2011; Hitt et al. 2009). In this regard, small firms end up having poor plans on how to get their products to final consumers in food markets (Admassie and Matambalya 2002; Kinda and Loening 2010). But in many countries food markets are characterized by a high intensity of competition and increasing internationalization (Rama 2005; Theuvsen et al. 2010). Theoretically, this means that the firms facing the hardship in the market environment will require more strategic practices than those facing simple environments (Miller and Friesen 1983)—regardless of their size. Furthermore, firms in competitive environments should be proactive, foresee changes in their environment and refine their strategies according to market requirements (Sull 2009).

In Tanzania and other developing and emerging economies, food processing firms have great potential for growth, and their strategic management orientation is progressing. However, despite some progress, strategic management is still in its infancy in many companies and our current understanding of their operating strategies has remained limited. Several explanations are offered for firms' reluctance to implement strategic management practices, including lack of better trading strategies and poor managerial skills (Dinh et al. 2013). Over the years government programs such as the Tanzanian Agricultural Sector Development Program 2006–2013, have been formulated to support the building of better functioning agro processing firms (Dinh et al. 2013). However, firms abilities to develop their own strategies differ and are not well understood. Some firms are better at implementing management practices than others. Therefore, our research question is this: What is the influence of internal and external factors on the successful implementation of a firm's strategic management practices? The factors investigated here are firm characteristics, its access to resources and the external pressures on the firm from its operating environment.

The remainder of this paper is structured as follows: In Section 2 we clarify the foundation behind specific relationships between various contingency factors and management practices through giving a theoretical background and building a conceptual framework. We also generate research assumptions based on different arguments from the empirical literature. Section 3 describes the sample, measures and analytical techniques. Then results are presented in Section 4, including primary data from interviews with agribusiness firm managers. Finally, in Section 5 we discuss the conclusions and implications of the results and give directions for future research.

Theoretical Framework and Hypotheses

Due to market competition and other external challenges, firms make efforts to carry out systematic planning and decision making. Strategic management is a management practice that can contribute to these efforts. It contains a full set of actions required for a firm to analyze its external and internal environments; formulate its corporate, competitive and functional strategies (Hofer and Schendel 1978); achieve strategic competitiveness; and earn above-average returns (Hitt et al. 2009). The concept demonstrates why some firms consistently perform better while others fail to do so (Nutt 2004). Furthermore, in their effort to perform better, firms engage with STM practices in order to achieve their objectives and hence satisfy those interest groups who are affected by the achievement of the firm's objectives (according to the stakeholder theory [Freeman 2010]).

With regard to the relationship between strategic management practices and firm performance, two theoretical strands in the strategic management literature can be distinguished.

The first theory—the industrial organization model of above average returns, or I/O theory—suggests that the external environment is the primary determinant of firms' strategic actions (see, for instance, Porter 1980). The environment is assumed to impose pressure and constraints that determine the strategies resulting in the achievement of firm objectives. The key to this theory is identifying these determinants, tailoring strategies accordingly and competing successfully (Collis 1991). This perspective has also been applied to the analysis of strategic management in the agribusiness sector, including small and medium-sized firms (Niederhut-Bollmann and Theuvsen 2008).

The second theory—the resource based theory (RBT) in strategic management—views internal organizational resources as the key determinants of strategy and performance, suggesting that a firm's unique resources and capabilities are the critical links to strategic management practices. According to Barney (1991) and Barney and Hesterly (2010), firms must be organized to take advantage of their resources and capabilities in order to remain competitive and realize their potential. With regard to agribusinesses, RBT has not been widely used to explain the differences in performance with regard to small agribusiness firms. Therefore, as suggested by Mugera (2012), there is a need to apply it in agribusiness studies to come up with more in-depth analyses of resources and capabilities that enhance better strategic management practices and hence performance.

Thus, to engage in STM practices, such as formulating mission and vision statements and planning and implementing strategies, firms use both the industrial organization and resource-based views. The first strand of strategic management theory is concerned with the firm's external environment, which sets the scene for strategic decisions, while the second theory focuses on the firm's internal environment, i.e., its tangible, intangible and human resources and its capabilities (Hitt et al. 2009). Furthermore, no single strategy would be appropriate for all firms operating in a particular type of environment; rather, the choice of strategies depends on individual firm characteristics, a firm's environment and available resources and capabilities (Grant 2013).

For the purpose of identifying research gaps, we review studies that have been conducted in relation to the determinants of STM practices, mainly firm characteristics, firm resources and external factors. We also explain studies on firm performance in relation to STM practices to develop the theoretical framework underlying this study.

Firm Characteristics

STM implementation is affected by several firm characteristics, including size, output, sales growth and profitability (Heyder and Theuvsen 2008). The variations of each can affect the choice of STM practices and eventually the overall firm performance. Fajnzylber et al. (2006) analyze variation in firm age and managers' experience, concluding that strategic performance tends to decline as a firm ages because, when a new practice is introduced, younger firms more easily adopt it, while for older firms it may be costly to let go of old strategies and work procedures. Others disagree, saying that old firms easily adapt to new practices due to the staff's greater degree of experience (Hitt et al. 2009). Experienced staff can enhance knowledge transfer from previous strategic challenges (Gary et al. 2012) and hence engage in more adequate strategic practices.

On the matter of firm size, Weinrauch et al. (1991) argue that small firms lack a strategic orientation compared to larger ones and that bigger firms are presumed to be relatively more efficient than smaller ones. In contrast, Coviello et al. (2000) claim that small firms actually have

a more strategic orientation because they are driven to develop strategic planning processes as they grow in size, scope and resource base. Furthermore, some studies indicate that firm size does not appear to influence how firms plan their strategies (Miles et al. 2000), but Bigsten and Gebreeyesus (2007) observed that smaller, younger firms are more strategic since they grow faster than larger, older firms.

Another characteristic is degree of formalization, i.e., the extent of written rules, procedures and instructions in a firm (Adler and Borys 1996), or, more specifically, formality, i.e., the official status of a firm, for instance, for the purpose of paying taxes (McKenzie and Sakho 2010). There is empirical evidence that firms with a high level of formalization show better application of STM practices, higher revenues or better performance (Fajnzylber et al. 2006; McKenzie and Sakho, 2007). However, Bigsten et al. (2004) identified no significant difference in achieving productivity strategy between small formal and informal firms. Earlier studies described efficient formal organizations as those with a clear division of work and a clear structure of command (Fayol 1921); recent studies focusing on small businesses indicate the same but with more focus on abiding by business regulations, other written rules, etc. (Robbins and Judge 2012). Many developing countries recognize the importance of small businesses in economic growth and hence tolerate informal business structures because the informal sector reduces unemployment (Nelson and DeBruijn 2005). However, regardless of whether these firms operate formally or informally, it is not clear whether they are able to conduct STM practices. Based on these arguments on size, age and formality status, we hypothesize the following:

H₁: Firms' distinguishing characteristics have significant effects on successful application of STM practices.

> *H₁ₐ: The older the firm is, the more common is the application of STM practices.*
> *H₁ᵦ: Increase in firm size is associated with increase in the application of STM practices.*
> *H₁꜀: The formalization status of a firm has a positive effect on its application of STM practices.*

Firm's Resources and Capabilities

Firms' ability to achieve their objectives is closely related to the resources they possess and how they are managed (Bloom and Van Reenen 2007). Firm resources facilitate successful implementation of strategies as long as they are valuable, rare, imperfectly imitable and imperfectly substitutable (Penrose, 1959; Mugera, 2012). Availability and management of valuable resources facilitate better strategic practices. However, Ferrier (2001) proposed an opposing explanation by arguing that a lack of resources will actually cause aggressive strategic practices by the firms, as they struggle to compete to acquire resources; but there are limited studies to support this argument. With reference to resource-based theory as explained earlier, our study looks at helpful resources such as tangible and intangible possessions that are controlled and invested by the firm to implement strategies and attain and sustain competitiveness (Barney, 1991). The small firms' strategic actions are often affected by their low investment capacity due to their tendency to use unsustainable sources of finance, such as their own savings, money from local lenders, or loans from family and friends (Dinh et al. 2013). Hence, low investment might pose a challenge when applying STM practices. Access to market information is also an important factor for STM, especially when conducting environmental analyses (Hitt et al. 2009).

The most discussed resource for large firms is managers' level of expertise. Expertise is associated with better application of strategic management practices as discussed by Boehlje et al. (2011). The authors analyzed the consequences of strategic uncertainty for the agribusiness firm and indicated that managers should be able to reassess the firm's strategy. If firm managers have limited business ability, they will not be able to resolve their firms' strategic positions (Ambrosini and Bowman 2009; Mugera 2012). However, the authors do not specify which expertise works best for small firm operations. Also, there are insufficient programs to help small agribusiness firm owners to improve their skills. More attention has been devoted to seeking external sources of funds, while the issue of managerial expertise has been neglected (Kweka and Fox 2011). Based on these arguments concerning firm's investment level, access to market information and managers' level of expertise, we hypothesize the following:

H_2*: Changes in firms' access to internal resources and capabilities are associated with an increase or decrease in the application of STM practices.*

> H_{2a}*: An increase in firms' investment level is associated with an increase in the application of STM practices.*
> H_{2b}*: The more firms have access to market information, the more they apply STM practices.*
> H_{2c}*: An increase in managers' expertise is associated with an increase in the application of STM practices.*

Pressure from the External Environmental

A number of environmental factors are identified in several studies as determinants of firm strategies. Successful implementation of strategies depends on having adequate information on changing customers' needs, changing technology in one's industry and government regulations and on knowing what competitors are up to and what is occurring in the general economy both domestically and worldwide (Burke 2011). The external environment of small firms is characterized by several constraints that affect a firm's ability to afford strategic operations (Dobbs and Hamilton 2007; Kweka and Fox 2011). Therefore, it is implied that those companies that face these constraints will have a hard time implementing and achieving their strategies. But Smallbone and Wyer (2006) argue that these constraints actually constitute a greater impetus for the firm to perform strategic practices.

For example, Dinh et al. (2013) indicate that unavailability of quality inputs can prevent firms' competitiveness. Better availability of raw agricultural products, food packages, tools, labels, etc., facilitates better strategic actions. Other studies identify specific factors that can benefit small firms, such as access to public infrastructure (e.g., electricity and public transport [Jin and Deininger 2008]), whereas in countries such as Tanzania, poor quality infrastructure causes marketing barriers (Kweka 2006). Furthermore, in the external environment, access to funds (i.e., bank loans or grants) is a potential factor. Evidence shows that smaller firms with access to external funds are able to make strategic investment plans and grow more quickly than those relying on their own funds (Fafchamps and Quinn 2012). Therefore, availability of inputs, public infrastructure and access to funds may all have a significant influence on the implementation of firm strategies, simply because they pressurize the firms to develop new and better strategies in order to cope with external changes or may limit a firm's ability to act strategically. In this regard, we formulate the following hypothesis:

H_3: *Pressure from a firm's external environment will directly affect the application of STM practices.*

> H_{3a}: *Better availability of inputs will directly affect the application of STM practices.*
>
> H_{3b}: *Better access to better public infrastructure services will directly affect the application of STM practices.*
>
> H_{3c}: *Better access to external sources of funds will directly affect the application of STM practices.*

Strategic Management Practices

Understanding the unique elements of small firms' STM practices in agribusiness is critical in this era of food market transformation (Bakker 2011). Some studies have analyzed STM practices and discussed its pitfalls, but, as noted above, these studies have often concentrated on medium-sized and large corporations (Chen 2005; Fard et al. 2011; Hitt et al. 2009; Stacey 2011). For large organizations, the application of STM practices includes sophisticated application of various tools and procedures involving top management executives, professional managers such as planning specialists, other employees and external consultants and stakeholders. But when we study small firms (with capital of less than US$125,000), we have to look at the very basic details of their ability to perform each step of STM practices as described by Wheelen and Hunger (2006):

- The preliminary step of STM practices includes environmental scanning; we assess whether firms are aware of their internal and external market environment or have developed a list of objectives, mission and vision statements, etc.
- The following step involves strategy implementation; we check whether firms have developed an operating manual for employees, have adequate number of workers who are committed to strategic management practices or can finance these activities.
- The last step involves strategy evaluation; we assess whether the firms have a tendency to compare actual activities with original plans, have alternative plans in case of unexpected developments or regularly compare their firm's strategy with those of competitors.

Even though strategic management practices may seem suitable at first sight, mainly for large corporate firms, there is a need to establish their relevance for small firms as well. Initially, there is a need to better understand which STM practices small firms actually apply and what determines the application of STM practices.

Performance

The study by Bakar et al. (2011) of STM application in business firms concluded that STM enables firms to increase their profit by increasing sales and reducing unnecessary expenses. It has repeatedly been argued that practices such as strategy planning and implementation serve the purpose of improving firm performance and that, hence, both constructs are closely linked (Andrews et al. 2009; Boyne and Walker 2004; Andrews Boyne, and Walker 2006; Beaver 2002; Bracker and Pearson 1986; Chen 2005; Georgellis, Joyce, and Woods 2000; Stacey 2011). Moreover, Woods and Joyce (2003) indicated that firms that were using STM tools achieved rapid growth in performance. However, only a very limited number of studies apply to small agribusiness firms. Some studies that have examined these firms show that those companies which engage in strategic management practices do not do so mainly for reasons of reaching performance goals but for reasons of complying with public pressure and meeting stakeholders'

expectations (Heyder and Theuvsen 2012). Other studies have shown that for agribusiness firms to have a clear strategic position improves their performance (Theuvsen, Heyder, and Niederhut-Bollmann 2010).

Since specific routes to performance are many, varied and not susceptible to simple generalizations (Cooper et al. 2005), when determining the performance of food processors, we included a variety of questions on revenue growth and sales growth perceived by managers during the past three years, as used in Zhang and Li (2008), and trends in total expenses as used by Van Duren et al. (2003). We also looked at number of employees since the number can correlate highly with sales volume and growth (Beck et al. 2005; Zhang and Li 2008) and achievement of strategies as possible measures of performance. We therefore propose the following hypothesis:

H_4: *The greater the extent of strategic management practices, the better the firm's performance.*

To sum up our discussion from the literature, a conceptual framework underlying the empirical analyses (see Figure 1) is proposed.
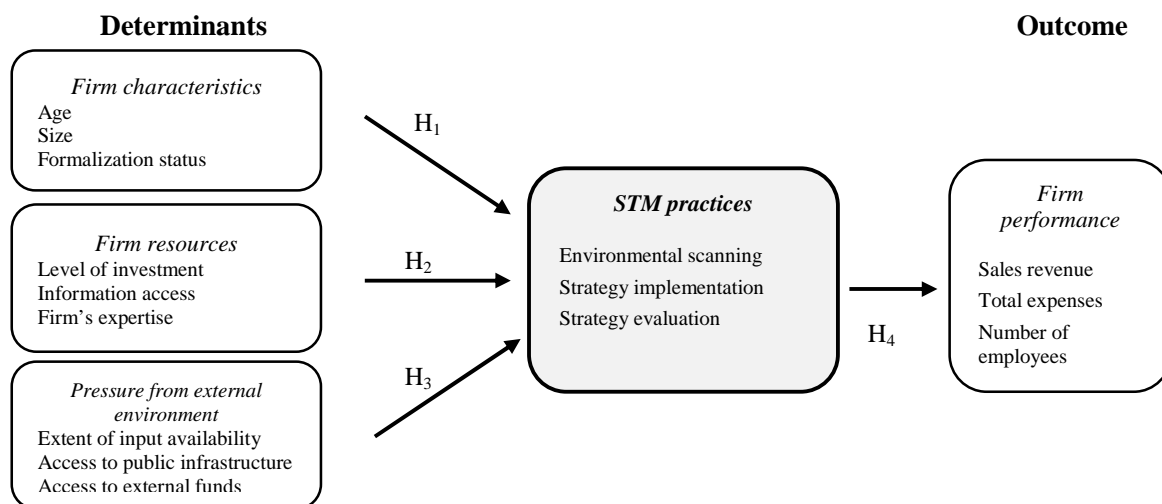
Figure 1. Conceptual Framework   Source: Authors' illustration

Methodology

Data collection and sample description

The hypotheses and conceptual framework outlined above inspired an empirical study of strategic management practices in small Tanzanian agribusiness firms. Between May and August 2013, data was collected through interviews with firm owners and/or managers with the aid of a structured questionnaire. The sample consisted of firms processing cereals, vegetables and fruits located in the Arusha, Dodoma and Tanga regions of Tanzania. The selection of firms followed a random sampling technique from a list of processors in the Small Industries Development Organization (SIDO). SIDO is a parastatal organization for improving the effectiveness of small industries in the country. Over 331 firms were contacted and agreed to participate in the interviews; 229 questionnaires qualified for analysis after excluding partially completed

questionnaires. Sixty-two questionnaires were collected from Arusha, 105 from Dodoma and 62 from Tanga.

The description of the sample is presented in Table 1. The firms have an average of $7^{1}/_{2}$ years of business operations and process on average three types of food products: cereals, fruits and vegetables. The majority of the firms (98.5%) buy farm produce from local farmers, and the rest (1.5%) import produce from neighboring countries. The respondents in this study were those who were able to provide a general overview of the firm and the cornerstones of their strategies. Their ages ranged from 18 to 78 years (average: 43 years), with an average of 11.05 years of school education; 61 percent of the respondents were female.

Table 1. Descriptive Information about the Sample (N=229)

Variables	Mean	Std. Dev	Min	Max
Information on Firm				
Firm age (yrs)	7.50	5.03	3	28.58
Full-time employees	5.00	3.41	3	20
Capital investment in million TZS	26.94	51.81	0.3	350
Self-financed firms (dummy)	0.27	0.40	0	1
Total number of products	3.00	1.92	1	11
Non-perishable (dummy)	0.66	0.48	0	1
Family business (dummy)	0.26	0.44	0	1
Products: Cereals (51.3%), fruits (20.5%), vegetables (16.4%), other (11.8%)				
Information on Respondent				
Age	43.00	10.70	18	78
Years of education (yrs)	11.05	3.51	1	22

Model Estimation

Appendix 1 shows the variables and items used for building our model: latent variables (or constructs), items in each construct, means and standard deviations. The formal status of a firm is represented by four items, its access to information by eight items, managers' expertise by nine items, and size and age by one item each. Other constructs are level of investment, which has six items; access to public infrastructure (eight items); availability of inputs (two items); and access to external sources of funds (one item). However, items that loaded less than 0.5 were excluded. We use partial least squares structural equation modelling (PLS-SEM) through Smart PLS 2.0 M3 software to estimate our model. The software has the advantage of dealing with complex explorative models with multiple relationships. Also, our study model measures relationships between eleven constructs together with a mix of reflective, formative and single items, which can be easily handled without any identification problem by PLS-SEM (Haenlein and Kaplan, 2004; Hair et al. 2014).

We decided to build a hierarchical component model (HCM) and calculate coefficients by using a repeated indicator approach. The approach involves testing second order structures that contain two layers of constructs; this means that items (indicators) used in the first layer are repeated in a second layer. These variables are firm resources (Rs) and pressure from the external environment (EXT); using only two such variables means that the model will have fewer exogenous constructs, thus reducing the number of relationships in the structural model and making the path model easier to grasp.

Quality Assessment of the Model

We proceed by testing the reliability of our outer model (mode A) through composite reliability (CR) score and construct convergent validity through average variance extracted (AVE) scores and discriminant validity using the Fornell-Larcker criterion as applied in Henseler et al. (2009). Tables 2, 3 and 4 show that all items are reliable, with CR scores above the threshold value of 0.708. Also, all measures of AVE for the first order constructs are above 0.5, which means that the latent variable on average explains more than 50% of the variance in the measured variables; hence, convergent validity is met.

Convergent validity for the second order constructs 'firm resources' and 'pressure from external environment' show AVE values of 0.462 and 0.43 respectively. The first value is below the threshold of 0.5 but quite close to this threshold. The latter value of 0.43 for the second order construct is not close to the threshold; hence, we will discuss its first order constructs which are 'INPUT' and 'INFRA' because their AVE values are well above the threshold (Table 4).

Table 2. Quality Criteria for Firm Characteristics Constructs

Variable	Construct		Loadings	AVE	CR	Cronbach
AGE	Age of the firm (AGE)	1 item	1			1
SIZE	Size of the firm (SIZE)	1 item	1			1
FORMAL	Formalization status (Xs)	4 items		0.734	0.917	
FORM_1	You have a picture of an organization structure.		0.84			
FORM_2	You have indicated clearly the division of work for employees.		0.91			
FORM_3	You have written a clear business plan.		0.85			
FORM_4	You are able to abide to all legal business regulations.		0.82			

Table 3. Quality Criteria for Reflective First Order Constructs of Firms' Internal Resources

Variable	Construct	Loadings	AVE	CR	Cronbach
INVEST	Investment level:		0.81	0.90	0.758
INVEST_1	How much have you invested on the firm's buildings?	0.91			
INVEST_2	How much have you invested on the firm's motor vehicle?	0.89			
INFO	*Information Access*		0.66	0.85	0.743
INFO_1	Information on where to get raw materials	0.73			
INFO_2	Information access on changes in product prices	0.87			
INFO_3	Information access on where to sell	0.83			
EXP	Manager's level of expertise		0.63	0.94	0.926
EXP_1	Level of expertise in bookkeeping and accounting	0.73			
EXP_2	Level of expertise in managing employees	0.81			
EXP_3	Level of expertise in marketing techniques	0.79			
EXP_4	Level of expertise in financial management	0.83			
EXP_5	Level of expertise in stock taking and record keeping	0.82			
EXP_6	Level of expertise in food quality and safety standards	0.78			
EXP_7	Level of expertise in customer care	0.81			
EXP_8	Level of expertise in product presentation	0.78			
EXP_9	Level of expertise in food processing	0.79			

Table 4. Quality Criteria for the Reflective First Order Constructs of 'Pressure from Firm's External Environment' Variable

Variable	Construct	Loadings	AVE	CR	Cronbach
INPUT	Input availability		0.68	0.81	0.537
INPUT_1	Availability of agricultural inputs	0.84			
INPUT_2	Availability of non-agricultural inputs	0.81			
INFRA	Access to public infrastructure level		0.68	0.86	0.748
INFRA_2	The firm is in the city center.	0.62			
INFRA_7	There is a continuous and uninterrupted electricity supply.	0.91			
INFRA_8	There is a continuous and uninterrupted water supply.	0.91			

FUNDS	Access to funds (FUNDS) (single item excluded from HCM)	1	1

We use the Fornell-Larcker criterion to check for discriminant validity. The aim is to see whether a construct shares more variance with its measure than it shares with other constructs in a given model. The criterion is met when the AVE scores (see diagonal values in Table 5) of each latent construct is higher than the construct's highest squared correlation with any other latent construct (Fornell and Larcker 1981).

Table 5. Fornell-Larcker Criteria

	AGE	EXP	FORMAL	FUNDS	INFO	INFRA	INPUT	INVEST	PERF	SIZE	STM
AGE	single item										
EXP	0.07	**0.63**									
FORMAL	0.08	0.28	**0.73**								
FUNDS	0.01	0.00	0.02	single item							
INFO	0.02	0.18	0.14	0.00	**0.66**						
INFRA	0.06	0.08	0.01	0.10	0.08	**0.68**					
INPUT	0.01	0.07	0.04	0.01	0.10	0.03	**0.68**				
INVEST	0.10	0.16	0.07	0.00	0.02	0.05	0.03	**0.81**			
PERF	0.01	0.14	0.18	0.00	0.10	0.01	0.01	0.01	**0.90**		
SIZE	0.06	0.07	0.16	0.01	0.03	0.01	0.02	0.07	0.10	single item	
STM	0.14	0.30	0.29	0.00	0.16	0.05	0.03	0.10	0.35	0.19	0.91

Note: AVE values are positioned on the diagonal, and the correlations between the constructs are in the lower left triangle.

After variable measures have been confirmed as reliable and valid, we then assess the structural model for collinearity because the path coefficients may be biased if the estimation involves significant levels of collinearity among predictor variables. We run three sets of linear regression models on SPSS for the purpose of checking the variance inflation factor (VIF) values. Appendix 2 shows that VIF values are below the threshold value of 5.0, thus indicating no multicollinearity problem. After assessing the quality of our measurements, we run the PLS algorithm to examine key results of the model.

Results

Table 6 shows resulting relationships between variables, path coefficients, R-squared, t-statistics for the standardized path coefficients and p-values. The t-statistics were tested by running bootstrap with 5,000 re-samples. Table 6 also presents the results of the hypothesized structural model because one path characterizes each hypothesis. The results show that application of STM practices is influenced by a firm's distinguishing characteristics: firm age (H_{1a}; 0.135***), firm size (H_{1b}; 0.231***) and formalization status of the firm (H_{1c}; 0.227***). Moreover, the application of STM practices is greater if there are high investment levels (H_{2a}; 0.042***), access to market information (H_{2b}; 0.061), increase in managers' level of expertise (H_{2c}; 0.284***) and better access to funds (H_{3c}; 0.089*). In contrast, the effect of better availability of inputs and access to public infrastructure services do not significantly influence application of STM. Therefore, hypotheses H_{3a} and H_{3b} are not supported. Altogether, 48.5 percent of the variance in application of STM practices is explained by the determinant (exogenous) variables in the model, with the highest contribution coming from managers' level of expertise, followed by firm size and the formalization status of the firm.

Hypothesis H_4 was supported. The extent of strategic management practices significantly contributes to firm performance (0.591***); however, only 35 percent of the variance is explained.

Table 6. P-values and Hypothesis Testing

Relationships		Path Coefficient	t-values	p-value	Sig.	Hypothesis		Decision
AGE	STM	0.135	3.189	0.002	***	**H1**	H_{1a}	Supported
SIZE	STM	0.231	5.137	0.000	***		H_{1b}	Supported
FORMAL	STM	0.227	3.377	0.000	***		H_{1c}	Supported
INVEST	STM	0.042	4.398	0.000	***	**H2**	H_{2a}	Supported
INFO	STM	0.061	4.577	0.000	***		H_{2b}	Supported
EXP	STM	0.284	5.388	0.000	***		H_{2c}	Supported
INPUT	STM	0.015	0.990	0.323	NS	**H3**	H_{3a}	Not supported
INFRA	STM	0.046	0.974	0.331	NS		H_{3b}	Not supported
FUNDS	STM	0.089	1.713	0.088	*		H_{3c}	Supported
STM	PERF	0.591	13.175[1]	0.000	***	**H4**	H_4	Supported
R- Squared values:		**STM**	**= 0.485**					
		PERF	**= 0.350**					

*Significance: *p<0.1; **p<0.05; ***p<0.01* [1]One tailed test

Predictive relevance Q^2 is another criterion for the model assessment (Henseler, Ringle, and Sinkovics 2009) and values of Q^2 larger than zero verify that our exogenous latent variables have predictive relevance for the endogenous latent variables STM and PERF. The results yield the values 0.337 for STM and 0.237 for PERF (see Appendix 3), which confirm the predictive relevance of the associated path model relationships. We then extend our findings of PLS-SEM outcomes by conducting the importance–performance matrix analysis (IPMA) introduced by Martilla and James (1977).

Importance–Performance Matrix Analysis (IPMA) for STM Practices

IPMA is useful in extending PLS-SEM findings using latent variable scores. The matrix shows which attribute (i.e., exogenous variable) a manager should focus on in order to apply STM practices successfully. Thus, IPMA provides guidance for strategic development (Slack 1994). The term *importance* refers to the impact of a latent variable on an endogenous (or target) variable, while *performance* represents responses from the data in a form of latent variable scores or index values. In generating the matrix, we use 'application of STM practices' as our target variable; thereafter *total effects* (importance) and *index values* (performance*)* are determined (Hair et al. 2013). The total effect of a path between two constructs is the sum of all the direct and indirect effects in a structural model derived from a PLS path model estimation. The index values, on the other hand, are derived by means of re-scaling all observation data to a range of 0 and 100 (see, Anderson and Fornell, 2000; Höck and Ringle 2010) using the formula:

$$X_i^{rescaled} = \frac{(x_i - Minscale[x]}{(Maxscale[x] - Minscale[x])} \cdot 100$$

X_i represents i^{th} data (latent variable score), Minscale [x] represents the lowest, and Maxscale [x] the highest value in the x data (Höck and Ringle 2010). The mean values of all latent variable scores are rescaled with the higher values indicating better performance. Table 8 shows the resulting total effect and latent variable index values extracted from a smartPLS default report. If, for example, the index value of AGE increases by one unit, the index value of the target variable STM will increase by 0.135 points in a static manner of assessment (ceteris paribus). For quick interpretation of all variables, a graphic IPMA representation is created using a Microsoft Excel spreadsheet application (see Figure 2).

Table 8. IPMA Results

Variable		Total Effects (Importance)	Index Values (Performance)
Firm age	AGE	0.135	17.76
Firm size	SIZE	0.231	25.97
Formalization status	FORMAL	0.227	57.10
Level of investment	INVEST	0.042	29.71
Access to market information	INFO	0.061	77.77
Managers' level of expertise	EXP	0.284	60.38
Availability of inputs	INPUT	0.015	77.86
Access to public infrastructure	INFRA	0.046	55.66
Access to funds	FUNDS	0.089	60.35

In terms of recognizing priority areas or issues requiring managerial action, attention should be paid to the variables that are positioned high on the x- and y-axes in Figure 2. Reading from the x-axis, managers' level of expertise ranks first on the importance scale, followed by firm size and formalization status, whereas availability of inputs ranks lowest. Reading from the y-axis, availability of inputs ranks first on the performance scale, followed by access to market information; in this case, firm age is the least important variable.

Overall, attention is given to the variables positioned in the top-right corner (Figure 2), which indicates a relatively high share of importance and performance compared to other variables. In this case, managers' level of expertise and the formalization status of the firm are selected as areas of priority for the successful application of STM practices.
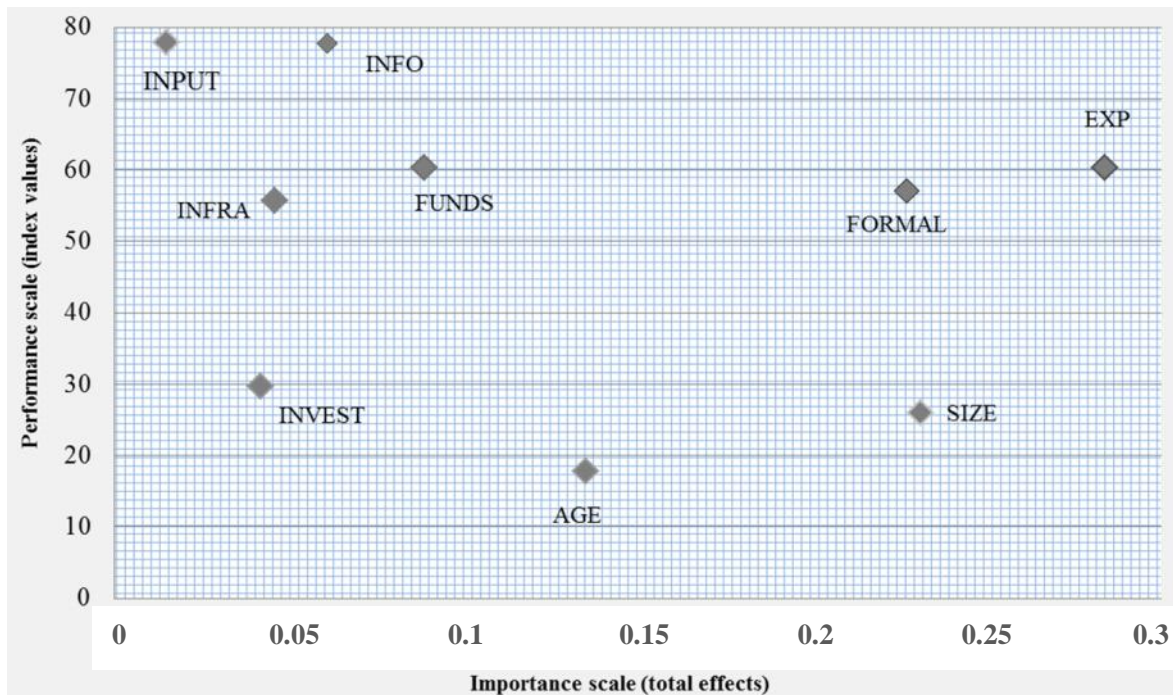
Figure 2. IPMA Representation of Determinants of STM Practices

Discussion and Conclusions

The results of our analysis demonstrate a positive link (H4; 0.591***) between strategic management practices and firm performance. This finding provides justification for the need of STM practices for firm survival in competitive and dynamic markets. Since we surveyed small enterprises, the results provide support for the argument that there is a need for strategic awareness not only in medium-sized and large enterprises but also in small ones (Gibb and Scott 1985). Furthermore, our empirical findings are in line with earlier studies that have indicated the positive effects of systematic strategic management in small enterprises (Andrews, Boyne and Walker 2006; Bracker and Pearson 1986; Georgellis et al. 2000).

Also, our analysis provides support for the notion that firm characteristics have a significant effect on STM practices. Looking at the path coefficient scores and *IPMA* presentation for each variable of firm characteristics separately, a firm's *formalization status* has a greater impact on the application of STM practices than its *age* and *size* (see Figure 2). The result is not in line with the study conducted by Bigsten et al. (2004), which found no high productivity strategy achieved by changing from informal to formal status. After all, developing countries often tolerate the operations of informal businesses due to their contribution to net employment growth. In addition, firms do not see any profit gains by formalizing their businesses. Informal firms usually engage in food processing business on a trial basis, using family members in a part-time position, with no clear structure or direction and no paperwork or financial records. This informal management style is contrary to Max Weber's (1968) assertion that creating formal authority structures in any business enables it to benefit from the so-called "technical superiority" of bureaucratic organization. Our study supports Weber, indicating that greater formalization will enhance firms' successful strategy implementation (H$_{1c}$; 0.227***) because they will have more opportunities to make investment efforts and participate in export activities than informal firms.

Hence, formal firms will be in a good position to implement their strategies; however, this applies mostly to firms with greater *age* (H_{1a}; 0.135***) and larger *size* (H_{1b}; 0.231***). The latter findings parallel early results from a contingency perspective in organization theory, which indicated that older and larger firms tend to become more formalized (Child 1975). The trend towards increasing formalization and implementation of management systems has more recently been demonstrated for small growing enterprises, as well (Davila 2005).

Further analysis provides support for the proposed relationship between available firm resources and the application of STM practices. Firm resources including investment level, access to information and management's expertise are positively associated with an increase in STM practices. These are helpful resources that support the implementation of strategies and hence gain and sustain competitiveness. The argument from the literature that firms with fewer resources aggressively engage in strategic practices (Ferrier 2001) is not supported. The study looked at valuable resources for the food processing firms in this context and found that 'level of expertise' contributes most to STM implementation. Firms with relevant skills are in a good position to strategize well and position their products more easily in the market. The existing literature also indicates the same relationship, with no clear indication of which skills they are referring to (Mugera 2012; Ambrosini and Bowman 2009). Among several skills investigated in this study, knowledge of food quality and safety standards, expertise in food processing and customer care were considered relevant. In contrast, firms with inadequate skills cannot implement their strategies successfully even if they have good strategic plans in place. From a more general point of view, the findings support the widely shared resource-based view that it is often intangible and human resources that provide a basis for long-term competitive advantages since these resources are often difficult to imitate or replace (Prahalad and Hamel 1990).

Our findings also show that the degree of a firm's ability to implement STM practices is influenced by better access to information (H_{2b}; 0.061***). As long as information is accessed and understood, it can be used to unravel market uncertainties and hence formulate and implement strategies and control results. This supports Hitt et al.'s (2009) proposition that access to information is essential for strategic management steps such as environmental analysis, for which firms need to be informed about relevant elements of and changes in the firm's internal and external environments. Thus, firms with better access to information on where to get agricultural produce, produce prices, where to sell their products, customer needs, competitors' actions and other relevant topics have better opportunities to successfully engage in strategic actions than those with poor access. Those with poor access are uninformed about what they need to solve their problems and unable to understand market trends clearly; as a result, they lose focus in goal accomplishment.

Our study shows significant results for the effects of level of investment on STM practices. Firms that invested more on assets such as firm buildings and motor vehicles were able to carry out their regular production plans and transportation in a convenient environment with adequate space for food hygiene and safety. Such firms are able to implement their strategies and realize their potential. Similar arguments have been made in previous studies, which link the poor performance of manufacturing firms to poor investment capacity (Dinh et al. 2013). The resource-based view in strategic management also argues that there is a need for a sufficient resource basis for doing business although most of these resources do not provide competitive advantages (Barney 1991). Hence, policies should aim to promote private investment in input to resolve one of any small firm's major challenges—how to attract interested venture capitalists to invest in a modern production plant, machinery and food processing equipment.

The results of this study also show that there are significant and insignificant factors in the external environment that affect the application of STM. Better input availability and access to public infrastructure services do not have a significant effect on the implementation of STM practices. The latter was surprising because we expected that access to public infrastructure would enhance the effective implementation of STM practices. It could be challenging in strategic implementation and monitoring aspects of STM if there is inadequate availability of electrical power, water, communications services, etc. The reason for our finding could be that the firms surveyed are not very exposed to external pressure compared with large firms that deal with complex transport logistics and exporting activities.

The conditions in firms' external environment shape the way they formulate their strategies. Previous studies indicated that pressure from the external environment can push firms to perform certain strategic actions (Heyder and Theuvsen 2012; Smallbone and Wyer 2006). Therefore, the only significant external environment factor was access to external sources of funds. Our results showed that the hypothesized positive effect of the access to funds and the implementation of STM practices was confirmed (H_{3c}; 0.089*). STM practices were more prevalent in those firms which have more alternatives for financing current and future activities. Those with a lack of access to loans and complicated bank loan applications claimed that STM practices are expensive, irrelevant and time-consuming in light of the small earnings they make. These firms depend more on their owners' savings, which is often an inadequate and very limited source of finance for business operation and expansion; hence, better access to formal sources of funds, such as bank loans, is needed. This brings us to the essential point of having a strategic plan in place that will convince formal financial institutions to issue loans and attract potential investors. The plan will also motivate firms to work hard towards firm performance (since our H_4 hypothesis is supported). Therefore, if we look at pressure from external environment factors, the greater focus is on access to external funds.

The study provides manifold starting points for future research. For instance, it does not imply that there is a best resource or capability for all firms but rather that there are skills that are valid for the effective application of STM in this context. Scholars may further pursue studies of STM practices that focus on the entire portfolio of skills (e.g., marketing, finance, human resources and logistics) possessed by agribusiness managers. Such studies may further demonstrate the link between managerial skills, application of STM practices and firm performance. The analysis opens up another research path to explain the sphere of knowledge that determines effective strategic management practices. Overall, the conceptual model explains 48.5 percent of the variations in STM practices and 35 percent of the variation in firm performance. Obviously, there are other factors that have yet to be explored in order to explain the variability in our conceptual model.

We based our research on the fact that proper strategic plans and skills are needed to exploit food markets. Results support the view that internal organization resources are a critical link to strategic practices (Barney and Hesterly 2010) by discussing specific items in the study area context. The study contributes to the literature by providing a clarified categorization of important and relevant items for quick managerial actions. Thus, the findings provide various starting points for improving management practices and political and administrative actions. Since Tanzania has targeted the country's manufacturing sector to increase its contribution to GDP from 8 to 15 percent between 2009 and 2015 (MoFEA, 2010), knowledge and skills should be promoted, and research findings translated into productive actions. Overall, this research is an early inquiry into the strategic management process for firms of this nature in an emerging

African economy. Much needs to be accomplished if it is to serve agribusinesses in the years ahead. Therefore, deeper qualitative and quantitative explorations are required in the future.

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Appendix 1: Descriptive Statistics of Variable Items

Item	Statement/Question	Mean	Std. Dev
AGE	Number of years since firm establishment (yrs)	43	10.699
SIZE	Capital investments in Tanzanian shillings (million TZS)	2.04	1.112
Size of the Firm (SIZE): Scale:1=below 5 mil TZS, 2=5 to 25 mil TZS 3=25 to 50 mil TZS; 4=50 to 100 mil TZS; 5=above 100 mil TZS			
Formal status (FORMAL): Formalization status of the firm (scale from 1=strongly disagree to 5=strongly agree)			
FORM_1	You have a picture of an organization structure.	3.11	1.060
FORM_2	You have indicated clearly the division of work for employees.	3.39	1.035
FORM_3	You have written a clear business plan.	3.17	1.035
FORM_4	You are able to abide by all legal business regulations.	3.47	1.066
Investment Level (INVEST): 1=Very low, 2=Low (25%), 3=Average (50%), 4=High (75%) 5=Very high (up to 100%)			
INVEST_1	How much have you invested in firm buildings?	2.38	1.385
INVEST_2	How much have you invested in firm's motor vehicles?	2.04	1.165
INVEST_3	How much have you invested in employee training?	2.50	1.211
INVEST_4	How much have you invested in production technology?	3.41	1.028
INVEST_5	How much have you invested in office tools (raw materials, salary, water and electricity tools)?	2.82	1.332
INVEST_6	How much have you invested in marketing activities?	2.95	1.211
Firm's access to information (INFO) Scale: 1=Completely inaccessible 2=Inaccessible, 3= Average access, 4=Accessible and 5=Highly accessible			
INFO_1	Information on where to get raw materials	4.34	0.941
INFO_2	Information on changes in product prices	4.04	1.049
INFO_3	Information on where to sell	3.97	0.993
INFO_4	Information concerning customers' whereabouts	3.89	1.014
INFO_5	Information about when to sell	3.92	1.013
INFO_6	Information on competitors	3.70	1.128
INFO_7	Information on tax rates	3.38	1.286
INFO_8	Information on trade associations	3.61	1.177
Level of manager's expertise (EXP) scale from 1=strongly disagree to 5=strongly agree			
EXP_1	Level of expertise in bookkeeping and accounting	3.03	1.094
EXP_2	Level of expertise in managing employees	3.45	1.053
EXP_3	Level of expertise in marketing techniques	3.26	1.056
EXP_4	Level of expertise in financial management	3.21	1.107
EXP_5	Level of expertise in stocktaking & recordkeeping	3.36	1.081
EXP_6	Level of expertise in food quality & safety standards	3.56	1.056
EXP_7	Level of expertise in customer care	3.72	1.006
EXP_8	Level of expertise in product presentation	3.37	1.074
EXP_9	Level of expertise in food processing	3.73	1.070
Input availability (INPUT) Scale: 1=Not available 3=Available 5=Easily available			
INPUT_1	Availability of Agricultural Inputs	4.34	0.870
INPUT_2	Availability of Non-Agricultural Inputs	3.85	1.014
Access to public infrastructure level (INFRA): scale from 1=strongly disagree to 5=strongly agree			
INFRA_1	The firm is located along the regional highway.	3.41	1.273
INFRA_2	The firm is in the city center.	3.42	1.265
INFRA_3	There is access to telephone services.	4.42	0.695
INFRA_4	There is access to electricity.	4.40	0.730
INFRA_5	There is access to water.	4.37	0.749
INFRA_6	There is continuous phone service.	4.36	0.799
INFRA_7	There is a continuous and uninterrupted electricity supply.	3.11	1.246
INFRA_8	There is a continuous and uninterrupted water supply.	3.21	1.254
Access to Funds (FUNDS): Scale: 1=Very poor 2=Poor 3=Fair 4=Good 5=Very good			

FUNDS	Access to funds aggregate mean score	3.4	0.79
Strategic management practices (STM) practices (scale from 1=Strongly disagree to 5=Strongly agree)			
STM_1	You have developed a list of strengths and weaknesses (of the firm).	3.32	1.301
STM_2	You are informed about all opportunities that are good for firm development.	3.39	1.298
STM_3	You understand your customers and what products they need.	3.70	1.304
STM_4	You have visualized what your firm might be like five to ten years from now.	3.38	1.271
STM_5	You have developed a list of the firm's objectives.	3.37	1.252
STM_6	The objectives are regularly updated.	3.14	1.261
STM_7	The objectives are known to every employee.	3.24	1.318
STM_8	You have a fully developed operational procedures manual.	2.91	1.354
STM_9	Work procedures are fully communicated.	3.24	1.320
STM_10	The procedures are fully understood by every employee.	3.42	1.353
STM_11	The firm can afford to finance actual implementation of strategies.	3.16	1.247
STM_12	Employees are fully committed to the implementation of strategies.	3.47	1.293
STM_13	There is an adequate number of staff to implement firm strategies.	3.19	1.303
STM_14	There are enough competencies to implement the strategies.	3.10	1.254
STM_15	You regularly compare your activities to your plans.	3.41	1.273
STM_16	You develop alternative plans.	3.24	1.279
STM_17	You regularly compare your strategies with those of your competitors.	3.33	1.331
Performance (PERF) 1=Decrease 2=Slight decrease 3=The same as in the preceding year 4=Slight increase 5=Increase			
Rev_1a	Sales revenue this year (2013)	3.73	1.082
Rev_1b	Sales revenue last year (2012)	3.60	0.971
Rev_1c	Sales revenue in 2011	3.50	0.991

Appendix 2: Collinearity Assessment

Model 1:	Model 2:	Model 3:	
INFO (1.23),	INPUT (1.028)	FORMAL (1.601)	AGE (1.200)
EXP (1.44)	INFRA (1.028)	SIZE (1.263)	Rs (1.694)
INVEST (1.12)		EXT (1.344)	FUNDS (1.302)
(as predictors of Rs)	(as predictors of EXT)	(as predictors of STM)	

VIF values in Parentheses. VIF is a metric for multicollinearity

Appendix 3: Effect Sizes (f^2 and q^2 values)

Path Relationships		Path Coeff.	t-values	p-value	Significance	f^2 Effect Size		q^2 Effect Size
SIZE	STM	0.231	5.126	0.000	***	0.07	Small	0.05
AGE	STM	0.135	3.211	0.002	***	0.03	Small	0.02
FORMAL	STM	0.227	3.464	0.000	***	0.06	Small	0.03
RS	STM	0.334	5.366	0.000	***	0.11	Small	0.06
EXT	STM	0.051	0.964	0.168	NS	0.004	Small	0.004
FUNDS	STM	0.089	1.716	0.086	*	0.01	Small	0.01
STM	PERF	0.591	13.786	0.000	***	0.31	Medium	0.08

Endogenous latent variables

STM		Q^2 **values**	0.337
PERF			0.237

Note: q-squared values greater than 1 indicate that there is predictive relevance in the path relationship.