

Agricultural business diversification and its implications on the sustainability of pig-farming SMMEs in the Central Free State of South Africa

KN ORLU *

Department of Business Support Studies, Central University of Technology,
Free State

*kingsleyorlu@gmail.com * corresponding author*

JH VAN ZYL

Centre for Development Support, Faculty of Economic and Management Sciences,
University of the Free State

vanzyljh@ufs.ac.za

DO UMESIABI

Department of Agriculture, Central University of Technology, Free State

doumesiabi@gmail.com

Abstract

Pig-farming SMMEs in the Central Free State of South Africa resort to diversification as a business development strategy, with the aim of prevailing through or sustaining pressures over a number of dynamic risks. However, the frequency of liquidations among these enterprises substantiates the statement that sustainable performance is less than satisfactory.

This article aims to illustrate theoretical debates on the nature and consequences of diversification as well as to provide an empirical insight into a five-years-result of diversification attempts.

Based on a questionnaire survey of 144 participants comprising 71 diversified and 73 specialised pig-farming SMMEs, results show that there is no significant association between diversification and sustainable performance among pig-farming SMMEs in the Central Free State of South Africa. Hence, the study identified entrepreneurial idiosyncrasies to be largely responsible for results shown in each of the variables studied, such as sales growth, gross profit, and return on investment. All three performance indicators were critical variables,

indicating performance sustainability of the study population. With respect to the risk nature of diversification decisions, it is recommended that to maximize the probability of success, a careful examination of all critical factors motivating the option is required.

Key phrases

agricultural business diversification; performance sustainability; pig-farming SMMEs; practical implications; strategic management

1. INTRODUCTION

In South Africa, the rate of failures of the Small, Micro and Medium-sized Enterprises (SMMEs) (Fatoki 2014:922; Lekhanya 2015:412; Maleka & Fatoki 2016:307) substantiates the evidence that enterprise sustainable performance is less than satisfactory (Malemela & Yingi 2016:132), especially among pig-farming SMMEs in the Central Free State Province (Department of Agriculture, Forestry and Fisheries, DAFF 2015:4). However, the rich diversity of the economy remains a strong reason for agricultural business diversification regardless of any pros and cons.

On the contrary, Bhana (2006:19) claimed that entrepreneurs doubt the benefits that flow from diversification and are likely to rationalise their growth strategies, and initiate divesture and restructuring. Variation in enterprise resource capabilities as well as the predictability challenges of less controllable environmental factors (Cho 2013:1; Mpandeli & Maponya 2014:137), which are common to pig-farming SMMES, may contribute to the uncertainty associated with performance results due to business diversification. Nevertheless, the benefits that seem to accrue either to agricultural business diversification or other growth alternative strategies are largely time-dependent. The value expressed in the performance results of agribusiness diversification, in the long run, determines the enterprise performance sustainability of the business.

In spite of the recurrent constraints bordering on diversification as some livestock enterprises progress along their life cycle continuum, many pig-farming SMMEs acknowledge the value of business diversification as a risk management strategy with risk-reduction benefits for

growth (Bromiley, McShane, Nair & Rustambekov 2015:273; Eckles, Hoyt & Millers 2014:252; Sharaunga & Mudhara 2016:104).

Some of these enterprises may have attempted the diversification approach to growth and yet find inconsistent results showing undesirable consequences such as 1) loss of investment by owners, 2) loss of employment by involved labour, 3) stakeholders' frustration, and 4) economic instability. Literature in several fields of study, including strategic management, corporate finance and industrial economics, on the one hand, abound with research on the phenomenal effects of business diversification on performance and *vice versa* (Eukeria & Favourate 2014:182; Iqbal, Hameed & Qadeer 2012:51; Santaló & Beccerra 2004:1). On the other hand, there is research available on the relationship between performance and diversification across a number of variables, with no widely acceptable effect or relationship (Akpınar & Yigit 2016:79; Benito-Osorio & Colino 2015:58; Yiğit & Tür 2012:122).

The South African livestock SMME environment is characterised by a relative uncertainty which results in frequently changing strategic directions (Leclère, Havlik, Fuss, Schmid, Mosnier, Valin, Herrero, Khabarov & Obsersteiner 2013:34; Ramaila, Mahlangu & Du Toit 2011:19). The existing livestock SMMEs, which form the vast population of the livestock sector, display a variety of attributes of unsteadiness as symptoms of internal weaknesses and crisis (Soji, Chikwanda, Chikwanda, Jaja, Mushonga & Muchenje 2015:264). Some of these SMMEs face conditions of unmet targets which include sales growth, gross profit and return on investment (Fatoki 2014:922; Macleod, McDonald & Oudtshoorn 2008:71), which indicate a need for improvement in existing business models and management strategies that are currently applied by them. This scenario continues to threaten the sustainability of the pig-farming SMMEs.

A critical examination of the dynamic capabilities inherently associated with these enterprises, while they operate in a globalising industrial system, suggests improvement in management, training and development of personnel responsible for enterprise performance (Agricultural Sector Education Training Authority, AgriSETA 2015:38; DAFF 2013a:38). The livestock sector is regarded as a driver of economic transformation in Africa (New Partnership for Africa's Development, NEPAD 2013:25). This article focuses mainly on the pig-farming SMMEs in the Central Free State Province of South Africa, where diversification

is widely applied as an alternative business strategy for growth in the midst of risks, and yet there exists phenomenal inconsistency in sustainable performance.

The livestock SMMEs have received considerable attention from the South African government since the democratic era in the form of policy and programme interventions, in a number of ways purposefully to strengthen this sector for an improved commercial competitiveness (Ndoro, Mudhara & Chimonyo 2014:63). The government intervention includes the provision of financial support, establishment of Agricultural extension services by the Department of Agriculture and Rural Development for the conveyance of information inputs in support of farming activities (Louw & Jordaan 2016:307; Ndoro *et al.* 2014:77).

Other forms of intervention are in the area of granting subsidies for the procurement of expensive input materials that enhance production systems in contribution to food security and local economic development such as the Input and Mechanisation Coupon Programme of DAFF and the Department of Trade and Industry, DTI (DAFF 2012:54). By means of this programme equitable growth and competitiveness are advanced through the granting of subsidies to the most expensive input materials that contribute most to food security.

The government also provides other agricultural support facilities for rural dwellers such as commonage centres for crop and livestock production, and processing activities. These facilities serve as part of the DAFF National Development Plan which is in line with the Strategic Plan for Smallholder Support (DAFF 2013b:11). In the Central Free State Province, these facilities have remained most viable for pig production systems. Nevertheless, risk-related challenges impacting on growth confront the pig-farming SMMEs, either environmentally or managerially. Some of these risks manifest in relation to production, marketing, technology, financial, government policies, health and wellbeing of owners, as well as labour supply challenges, which make the sector less attractive to the labour market (Kahan 2013:6).

A number of factors that support the motive for diversification may include size of operations, cash flow pattern, and the availability of infrastructure. These determinant factors may contribute to the intensity of the adoption of agricultural business diversification. Nevertheless, some of the SMMEs choose the diversification strategy as a means of enhancing business performance and ensuring sustainability and yet ascribe the reason for failure to the same choice. This article intends to demystify the vague understanding of the

implication of pig-farming business diversification decisions. Therefore, we provide a managerial perspective on the effects and consequences associated with such decisions among the pig-farming SMMEs in the Central Free State, with respect to whether performance sustainability significantly increases or decreases among these selected diversified pig-farming SMMEs, as well as those specialised.

2. AGRICULTURAL BUSINESS DIVERSIFICATION

The challenges of executing a successful diversification attempt cut across small businesses. The question of whether such attempts would yield results is dependent on a number of factors bordering on entrepreneurial idiosyncrasies (Rowley & Ulrich 2016:74; Fiss 2011:409), either environmentally or managerially. Farm business diversification has been traced to risk management interventions; an environmentally desirable attempt to spread the different kind of risks and uncertainty a farmer may face over several farm enterprises (Janowicz-Lamott & Lyskawa 2014:322; Kahan 2013:36; Lovo & Veronesi 2015:1). It can as well imply a response to opportunities, such as changes in marketing or consumer demand; on the other hand, it can be a response to threats such as urbanisation, government policies and more recently, as a mitigating response to climate change.

Recent definitions of agricultural diversification focused on multiple income-generating activities within a single business entity (Barnes, Hansson, Manevska-Tasevska, Shrestha & Thomson 2015:406; Hansson, Ferguson & Olofsson 2010:271). These definitions narrowly isolate income generating from other activities in a multiple business entity. Literature on the definition of diversification may differ, depending on the field of study and the level of conceptualisation, as both agricultural and non-agricultural definition overlap. From the perspective of strategic entrepreneurship, diversification may primarily involve the innovative application of ample productive resources in different business activities to derive marginal commercial gains.

However, the core concept of emphasis is on increasing returns on resources, which, according to Ansoff (1957:114), requires a shift in product and market strategy. In a different perspective the concept takes the dimension of agricultural diversification, thereby emphasising alternative income-generating activities or adding income-generating activities

at the farm-household level (Meena, Sen & Aha 2016:96; Seng 2014:414). These perspectives are narrowly concerned with 'output mixes' as the basic intention for the decision to diversify as well as the entrepreneurial motive for subsistence cash flow.

The value chain perspective extends the definition of diversification, incorporating more of strategic management within the sphere of entrepreneurship (Abosedo, Obasan & Olese 2016:315; Kimuli, Ajagbe, Udo & Balunywa 2016:467). In this context, types, such as horizontal, vertical, concentric, and heterogeneous opportunities are considered as bases for diversification strategy decisions in a network of product and market value chains. On the other hand, the categorical levels may synonymously include either related or unrelated diversification (Cho 2013:5; Dhir & Dhir 2015:581). In terms of dimensions, other literature has focused on different types of dimensions, such as, geographic versus industrial dimensions of diversification (Cincera 2014:228; Song, Park & Lee 2017:107), product and international dimensions (Hilman 2015:238; Sambasivan, Asrarhaghghi & Abd 2016:55).

Agricultural business diversification may be conceived differently from the Diversified Farming Systems (DFS) (Kremen, Iles and Bacon 2012:Internet; Segnon, Achigan-Dako, Gaoue & Ahanchédé 2015:6574), which may take a variety of operational dimensions, such as the Integrated Farming System Model (IFSM). It is a system that includes crop-tree systems (agroforestry systems), tree-livestock systems (pastoralism), crop-livestock systems, and crop-tree-livestock systems, which are components of agrobiodiversity (Segnon *et al.* 2015:6578). In the context of the pig-farming SMMEs, these systems refer to mixed farming systems in which both livestock and crop production operation are executed in tandem (Umesiobi 2000:25, 90-104).

This production system holds the promise in promoting functional biodiversity that generates ecosystem services (Kremen *et al.* 2012:Internet; Manevska-Tasevska, Rabinowics & Surry 2016:111). The admixture of livestock and crops production system is possible in a more coordinated framework (IFAD 2010:2).

However, one of its limitations, according to Bradely (2010:34), is that the profit margin on each unit of product grown diminishes as terms of trade become unfavourable and lead to a high production cost. High start-up costs and the long transition duration in developing other farm units for resource integration may introduce unwarranted cash-flow constraints into the entire farming business operation (Al Mamun, Nusrat & Debi 2011:131).

Production diversification is another dimension that may require the management of multiple enterprises concurrently. This may be applied at the same time and same physical location and may also include generating income from off-farm activities (Kahan 2013:36).

Kahan (2013:47) elaborated on the fact that agricultural business diversification reduces income variability and, debt obligations, ensures cash flow and finances daily expenses. Another set of challenges, as indicated by Kahan (2013:47), is that it creates tension along risk line, increases complexity, and adds more pressure on capital requirements for additional enterprises. As much as business diversification reduces the impact of risk, it equally has a tendency to spread risk over several enterprise ventures. In analysing risk management in smallholder cattle-farming, Otieno, Oluoch-Kosura, Karugia, Drucker and Rege (2006:3) categorised livestock risk management strategies into two groups.

The first group comprises, business diversification, which involves the reduction of risks associated with production of a single commodity by using a mixed-enterprise farming approach. This approach has the tendency of contributing to cash flow stabilisation, in spite of the fact that risk management weakens earnings and cash flow volatilities (Eckles *et al.* 2014:247).

Secondly, the sharing of risks among business stakeholders implies a risk management strategy that encourages the contractual alliances of value chain participants who may mutually undertake various aspects of the business processes. Risk sharing may be extended to provide for insurance covers that compensate for losses beyond personal negligence and poor management, and encourages enterprises to belong to income stabilisation schemes that may be opened to them in order to ensure a stable business growth against market volatility (Otieno *et al.* 2006:3).

3. THEORETICAL CONSIDERATIONS

The subject of business diversification can be traced to the study of organisational economics in relation to strategy. Four key theoretical motivations are identified to form the basis of the concept of diversification: the transaction cost theory, the resource-based theory, the agency theory, and the market power theory (Borda, Geleilate, Newburry & Kundu 2017:105; Mulwa, Tarus & Kosgei 2015:46). Business organisations following the

industrial efficiency ideology became more sensitive to costs through Oliver Williamson, who in 1979 pioneered the concept of transaction cost economy (TCE).

According to Williamson (1979:233), organisations that are not mindful of transaction costs, show the irrelevance of their economic activities. He cautioned that advantages derived by one organisation from costless contracting can be a threat to another. The TCE perspective is a rational one that can give credence to organisational economics, as it equally forms the basis for business diversification decision.

In extending the views of diversification from the organisational economics perspectives, interestingly, Klein and Lien (2009:290) raised the questions as to 'the determinants of the firm optimum boundary across industry and how a firm's boundary decision influences the structure of industry'. They examined the TCE as it determines the firm's choice to diversify rather than contract out any valuable assets. They identified far-reaching implications of TCE on either related or unrelated diversification decisions, as well as concurring that the TCE approach can be applied alongside other approaches such as resource-based and capability views.

The subject of business diversification advanced in literature through the 1957 pioneering article by Igor Ansoff "Strategies for diversification", which laid out its conceptual foundations. It further generated an explicit attention through the works of Gort (1962) and Rumelt (1982). The concept was aimed to be applied in addressing the challenges of long-term growth of an enterprise. As a growth alternative, it suggests a simultaneous departure from present product line and present market structure of an enterprise. Hence, it serves as a product-market strategy to accomplish a mission. This pioneering view in strategic management suggests that business diversification generally requires new skills, new techniques, and new facilities. This view implies that as a result of diversification, changes in physical and organisational structure of a business are bound to occur, representing a departure from past arrangements and practices (Ansoff 1957:113).

The pig-farming SMME growth strategies underpin two perceptions: product-market mission, and product-market alternative strategies, of which diversification seems to be a more appealing alternative strategy for growth. Another theoretical principle underlying diversification can be described in terms of enterprise resources, hence, the Resource-Based Theory (RBT) of diversification which proposes that "a firm's level of diversification

and its performance are significantly influenced by its resources and capabilities” (Wan, Hoskisson, Short & Yiu 2011:1336).

Penrose’s (1959) seminal work: “*The Theory of the Growth of the Firm*” stands as a significant intellectual extraction for the RBT. This theoretical perspective illustrates the link between resources and growth as a basis for enterprise growth in the form of enterprise diversification from the perspective of resources and capabilities (Wan *et al.* 2011:1336). The resource-based assumption of diversification was corroborated by Borda *et al* (2017:105) and Eukeria and Favourate (2014:192) in their explanations of motives for diversification, pointing out the market power motive, the agency motive and the resource motive. It was a theoretical principle that originally linked enterprise orientation to business diversification, in contrast to contemporary practices.

Wan *et al.* (2011:1339) illuminate on this strand and posit, **first**, that the RBT offers a strong theoretical logic that can explain and examine diversification in general and related diversification in particular.

Second, firms formulate and implement strategies to create and extract value from the resources they possess (Giachetti 2012:567).

Third, firms’ executives as organisational stewards create synergistic value from firm resources as one of the hallmarks of good management. Shyu and Chen (2009) offer a theoretical perspective that sheds light in this framework. In their perspective, Shyu and Chen (2009:57) contend that “diversification is one of the strategies for reducing firm risk or seeking growth opportunities to sustain the firm’s life”; they investigated what bearing corporate diversification and performance hold across a firm’s life cycle stages and the effect of diversification on performance with respect to related and unrelated dimensions.

The drive for market dominance to overcome competition may be demonstrated by means of business diversification. This concept emphasises the ability of a firm to apply strategies to distinguish itself in the market among competitors (Mulwa *et al.* 2015:46). According to Mulwa *et al.* (2015:46), the argument in support of the concept of market power as a basis for diversification can be drawn from Porter (1980) with respect to the firm’s positioning strategy among competitors in its environment. A firm’s market power increases by having established presence in other markets that positively influences competition in a particular

market. The industrial economics research paradigm corroborates the view that the motive for diversification can be derived from the market power theory: the greater the amount of market presence, the greater the opportunity for monopoly profits to mitigate costs.

The agency theory, as illustrated by Li and Rwegasira (2008:134) and Mulwa *et al.* (2015:46) is another contribution to theoretical perspectives that underpin the motive for diversification. This theory is used to explain the contractual principal-agent relationship existing between two or more entities who may be opportunists and self-ambitious. According to the assumption in this theory, the rationale for diversification in some way is to overcome the challenges of managerial inefficiencies which are likely to arise from principal-agent problems, and the assumption that agents may not in all circumstances serve the best interest of principals.

4. RESEARCH METHODOLOGY

4.1 Measurement Instruments

An extensive review of literature provided secondary data which were used to illustrate theoretical debates on the nature and consequences of agricultural business diversification as well as support an empirical insight into a five-years-result of the business diversification attempts among selected pig-farming SMMEs. An empirical approach included a pilot study and the main survey. The purpose of the study was to substantiate the extent to which sustainable performance is less than satisfactory among those diversified as well as the significance of association between sustainable performance and diversification, hence the frequency of liquidations.

4.2 Sampling

Of the 160 pig-farming SMMEs which received the survey, a total of 144 responded with usable returns and were recruited into the study, consisting of 71 diversified and 73 specialised pig-farming SMMEs. A purposive sampling was applied due to the difficulties associated with accessibility and critical demographic attributes of the study population which includes that respondents must have been in business fairly long enough to produce reliable data that could contribute to reliable findings.

In 2014 there were approximately 4000 commercial pig producers and 19 stud breeders in South Africa, and the Free State Province accounted for 8% of the national pig production (DAFF 2015:4). The province is chosen for the study due to its comparably low contribution to the national pig production. Another report from the South African Pig Producers' Organisation (SAPPO) showed that approximately 110 400 sows were owned by approximately 230 pig farmers in South Africa (SAPPO 2017:Internet). A follow-up consultation with the SAPPO representative in the Free State Province proved that a broad spectrum of emerging pig farmers in the province is not registered with the organisation.

The population of commercially active pig-farming SMMEs in the province was 223. Respondents were drawn from the database of the Agricultural Extension office of the Free State Provincial Department of Agriculture. A significant number of respondents were derived from seven local municipalities, namely: Kopanong, Setsoto, Ngwathe, Masilonyana, Nala, Mangaung and Mantsopa. This was influenced by the willing cooperation of some extension officers in these municipalities who were to facilitate access to the pig farmers. Nevertheless, the study was careful to cover all four district municipalities of the province which comprised 19 local municipalities and one metropolitan municipality. All the municipalities covered in the study had a more favourable topography for pig breeding and a concentration of pig farmers across the four districts.

4.3 Data collection

Data collection primarily involved a structured questionnaire survey containing 70 items and which was administered through the researcher's face-to-face contact sessions with the respondents. The five-point Likert scale with response options ranging from 1 strongly disagree to 5 strongly agree, was used in the questionnaire. Contact sessions with respondents were facilitated by the extension officers responsible for various farm clusters in these local municipalities. Data collection was done between January 2016 and March 2016.

4.4 Data analysis

Data analysis was done using the Statistical Package for Social Sciences (SPSS) version 12.0 for Windows.

Other statistical analyses included descriptive statistics and Pearson's Chi-square test used for hypothesis testing as supported by a probability value of 0.1. Reliability was tested using

the Cronbach's Alpha. Validity was ensured by using a panel of experts to evaluate the research instruments and by pre-testing these instrument during the pilot study.

Analysis was based on data extracts from key dependent variables, such as sales growth, gross profit, and return on investment (ROI) over the past 1-5 years of continuous operation. Using the Pearson Chi-square test, significance of association between two categorical variables was determined. To evaluate the significance of association between diversification and sustainable performance the study hypothesises thus:

H0: There is no significant association between diversification and sustainable performance among pig-farming SMMEs in the Central Free State.

H1: There is a significant association between diversification and sustainable performance among pig-farming SMMEs in the Central Free State.

5. RESULTS AND DISCUSSION

Results demonstrated in Table 1 ascertained agricultural diversification implications on sustainable performance among the pig-farming SMMEs studied.

The p-value of 0.1 was used in the acceptance of *H0* indicating that there was no significant association. Results of analyses showed a significant percentage increase in sales growth, gross profit and return on investment over the past 1-5 years for 71 (49%) of pig-farming SMMEs who diversified their businesses to other related or unrelated agricultural products. On the other hand, results showed significant percentage increase in sales growth, gross profit and return on investment over the past 1-5 years for 73 (51%) of pig-farming SMMEs who specialised their business.

The Chi-association between diversification and sales growth, gross profit and return on investment is shown in the above table; all three performance indicators were critical variables, indicating performance sustainability of the sampled SMMEs. All p-values are greater than 0.1. The above results indicate that from the two-way frequency, there is no significant association between diversification and sustainable performance among respondents. This therefore, warrants the acceptance of the null hypothesis.

TABLE 1: Pig-farming SMME 1-5 years' growth strategy result

Variables		Pig farming (1-5 years) duration		Pearson Chi-square	
		Diversified	Specialised	Statistics	p-value
Sales growth over the past 1-5 years	Decreasing	28.0%	35.4%	0.706	0.401
	Increasing	72.0%	64.6%		
Gross profit over the past 1-5 years	Decreasing	34.0%	36.9%	0.105	0.746
	Increasing	66.0%	63.1%		
Return on investment (ROI) over the past 1-5 years	Decreasing	38.0%	29.2%	0.982	0.322
	Increasing	62.0%	70.8%		

Source: Calculated from survey results in Orlu 2016:167

The freedom of allocating firm's resources to potentially profitable sectors of the economy with little or no regulatory constraint is seemingly a strong motive for free-market entry and exit of firms, geographically and industrially. This is similar in South Africa, where firms move from one geographical area to another in search of opportunities to allocate more available resources, or perhaps from one economic sector to another, thereby adding one or more business segment(s) to existing ones (Geyser, Louw & Botha 2009:31; Lekhanya 2015:413; Pisa, Rossouw, & Viviers 2015:502).

This economic ideology considers organisational resource capabilities (the combined marketing, distribution, and development skills of top and middle management) as the engines of corporate evolution (Matusaka 2001:414; Pisano 2016:1). Such resources cannot easily be dissipated when an existing business faces an economic downturn; rather, it becomes more rewarding to redeploy the resources to new businesses as they are the engine of enterprise evolution. Matusaka (2001:410) re-echoed the issue of matching/searching process in the context of which the management of pig-farming SMMEs may search for better matches for their investable resources to ensure the survival of their enterprises.

Livestock SMMEs in their respective fields of operation are confronted with issues which challenge diversification objectives. On the one hand, these are constraints which could be classified to range from enterprise, market to industry specifics. There are other instances of geographic constraint factors, which include climate change, environmental degradation resulting in the depletion of fresh water needed to keep livestock in good health, and poor veld condition for livestock. These constraints may become worse if not quickly identified and appropriate measures applied to overcome them. Singh and Mahmood (2009:13) identified a number of challenges of diversification when analysing internal and market problems in SMMEs in Singapore.

According to Singh and Mahmood (2009:13), succeeding through diversification, SMMEs must ensure that they are prepared to develop different products and services in order to guarantee customer satisfaction alongside required competences. This becomes more challenging in the face of attempting to outperform multiple competitors. They further stressed that this explains why SMMEs which diversify fail as they have to deal with multiple issues bordering on: strategies, sets of competencies, sets of customers, sets of competitors, as well as multiple environments.

As a strategic choice at the cross-road of pig-farming SMME diversification, it seems growth-related solutions may come with either diversification or specialisation decision. Yet this study found far-reaching implications on both sides of the coin. The reality is that: to the extent that diversification becomes indispensable, it might as well not be all the answers to challenges of growth. The tendency for diversification is natural and our question is not “*why*” as we seek to determine its relationship to sustainable performance and as a dynamic value-maximising strategy within the resource capabilities among the pig-farming SMMEs (Matusaka 2001:409).

6. LIMITATIONS AND FUTURE RESEARCH

Strict demographic characteristics of the study population limited the sample size, despite some of the significant findings of the research. The majority of the pig farming SMMEs in the Free State Province were emerging enterprises from the black population group. The

difficulty in obtaining the willing cooperation of the extension officers who were to facilitate access to the pig farmers in some municipalities influenced the sample size.

Smallholders with no reliable commercial data over the past five years of continuous operations were excluded from the study population. There is a likelihood that the reluctance of respondents to divulge performance information could have influenced the findings of the study. The significant effect of size categories on diversification among the study population remains unexplained, and warrants future investigations.

7. PRACTICAL IMPLICATIONS AND RECOMMENDATIONS

Agricultural Business diversification decisions are considered as risk management and business development strategy that safeguards optimal business performance. However, livestock business risks are beyond the framework of this study and cannot be determined. Business diversification decision, with respect to its inherent nature is equally a risk. To maximise the probability of success, business diversification requires a careful examination of all critical factors motivating the option, as it is more likely to attract and extend the firm's risk line. Nevertheless, consequences of such a decision may imply more pressure on the resources of the SMME pig business.

Lastly, the comparative difference in terms of financial return on investment between agricultural business diversification and its alternative (specialisation) may be insignificant. It can be suggested that some other product-market strategies that may enhance business growth alternatives may be considered while pig producers either choose to remain diversified or specialised. These strategies include market penetration and market development, which may be explored to achieve the sustainability of pig-farming SMMEs in the Free State. Factors other than diversification decision can be more responsible for success or failure in the pig-farming business.

8. CONCLUSION

For the pig-farming SMMEs, it seems less critical when business diversification seeks to enhance profitability than when intended for enterprise survival. Nevertheless, profitability and survival objectives are complementarily important, given that the unique livestock

business environment provides for the fact that achieving any one of these objectives is better than none.

Performance sustainability of the pig farming SMMEs in the Free State Province is considered to stand below expectation as our findings indicate, in spite of the government policies and programme interventions in agriculture. Organisation and business model designs are exceptional challenges that future research needs to address among the pig-farming SMMEs.

This study focused on the implication of diversification, a management strategy that requires careful consideration. Given that either the diversification or specialisation decision alternative attempts produce relatively fair results in different situations, there exist a variety of other factors that contribute more to either success or failure in pig farming businesses, apart from entrepreneurial idiosyncrasies. The study attempted to address the key question with respect to whether there was a significant association between performance sustainability and diversification among pig-farming SMMEs in the Central Free State Province of South Africa.

REFERENCES

- ABOSEDE AJ, OBASAN KA & OLESE OJ.** 2016. Strategic management and small and medium enterprises (SMEs) development: a review of literature. *International Journal of Management and Research* 5.1(Mar 2.16):315-335.
- AGRICULTURAL SECTOR EDUCATION TRAINING AUTHORITY.** 2015. Agricultural sector strategic skills plan: 2011-2016. [Internet: http://www.agriseta.co.za/downloads/ssp/Sector_Skills_Plan_SSp.pdf; downloaded on 2016-12-26.]
- AGRISETA** see **AGRICULTURAL SECTOR EDUCATION TRAINING AUTHORITY**
- AKPINAR O & YIGIT I.** 2016. The relationship between diversification strategy and firm performance in developed and emerging economy context: evidence from Turkey, Italy and Netherlands. *Journal of Economic and Social Development* 3(2):78-89.
- AL MAMUN S, NUSRAT F & DEBI MR.** 2011. Integrated farming system: prospects in Bangladesh. *Journal of Environmental Science & Natural Resources* 4(2):127-136.
- ANSOFF IH.** 1957. Strategies for diversification. *Harvard Business Review* 3:113-124.
- BARNES AP, HANSSON H, MANEVSKA-TASEVSKA G, SHRESTHA SS & THOMSON SG.** 2015. The influence of diversification on long-term viability of the agricultural sector. *Land Use Policy* 49(2015):404-412.

BENITO-OSORIO D & COLINO A. 2015. The link between product diversification and performance among Spanish manufacturing firms: analyzing the role of firm size. *Canadian Journal of Administrative Science* 32:58-72.

BHANA N. 2006. The effect of corporate divestments on shareholders wealth: the South African experience. *Investment Analysts Journal* 63:19-30.

BORDA A, GELEILATE JG, NEWBURRY W & KUNDU SK. 2017. Firm internationalization, business group diversification and firm performance: the case of Latin American firms. *Journal of Business Research* 72(2017):104-113.

BRADLEY R. 2010. Integrated farming systems. The past or the future? Tasmania, Australia: Nuffield Scholars (A report for Nuffield Australia farming scholars, project no. 0915.)

BROMILEY P, MCSHANE M, NAIR A & RUSTAMBEKOV E. 2015. Enterprise risk management: review, critique, and research directions. *Long Range Planning* 48(2015):265-276.

CHO YS. 2013. The effect of business diversification on a firm's performance, depending on its dynamic capabilities and market dynamism. *Journal of Management and Strategy* 4(3):1-8.

CINCERA M & RAVET J. 2014. Globalisation, industrial diversification and productivity growth in large European R&D companies. *Journal of Productivity Analysis* 41(2):227-246.

DAFF see **DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES**

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES. 2012. Integrated growth and development plan 2012. Pretoria: DAFF. pp. 1-70.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES. 2013a. Strategic plan for DAFF 2013/14 to 2017/18. Pretoria: DAFF. pp. 1-85.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES. 2013b. Strategic plan for smallholder support 2011-14/15. Pretoria: DAFF. pp. 1-12.

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES. 2015. Profile of the South African pork market value chain. Pretoria: DAFF. pp. 1-38.

DTI see **DEPARTMENT OF TRADE AND INDUSTRY**

DEPARTMENT OF TRADE AND INDUSTRY ANNUAL. 2008. Report. [Internet: <http://www.gov.za/sites/www.gov.za/files/dti%20AnnualReport0708.pdf>; downloaded on 2016-10-20.]

DHIR S & DHIR S. 2015. Diversification: literature review and issues. *Strategic Change* 24(6):569-588.

ECKLES DL, HOYT RE & MILLER ST. 2014. The impact of enterprise risk management on the marginal cost of reducing risk: evidence from the insurance industry. *Journal of Banking & Finance* 43(2014):247-261.

EUKERIA M & FAVOURATE S. 2014. Diversification as a corporate strategy and its effects on performance: a study of Zimbabwean listed conglomerate food and beverages sector. *International Journal of Economics and Finance* 6(5):182-195.

FATOKI O. 2014. The causes of the failure of new small and medium enterprises in South Africa. *Mediterranean Journal of Social Sciences* 5(20):922-927.

FISS PC. 2011. Building better causal theories: a fuzzy set approach to typologies in organization research. *Academy of Management Journal* 54(2):393-420.

GEYSER M, LOUW A & BOTHA L. 2009. Is geographic diversification sufficient to limit contract grower risk? *Agrekon* 48(1):21-34.

GIACHETTI C. 2012. A resource-based perspective on the relationship between service diversification and firm performance: evidence from Italian factory management firms. *Journal of Business Economics and Management* 13(3):567-585.

HANSSON H, FERGUSON R & OLOFSSON C. 2010. Understanding the diversification and specialization of farm businesses. *Agricultural and Food Science* 19(4):269-283.

HILMAN H. 2015. Significance of studying product diversification, geographic diversification, and their interaction impacts for Malaysian companies: a literature review. *Asian Social Science* 11(10):238-250.

IFAD see **INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT**

INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT. 2010. Integrated crop-livestock farming system. Rome, Italy: IFAD. (Livestock thematic papers: tools for project design.)

IQBAL A, HAMEED I & QADEER M. 2012. Impact of diversification on firms' performance. *American Journal of Scientific Research* 80:42-53

JANOWICZ-LAMOTT M & LYSKAWA K. 2014. The new instruments of risk management in agriculture in the European Union. *Procedia Economics and Finance* 9(2014):321-330.

KAHAN D. 2013. Managing risk in farming: a farm management guide, food and agriculture organization of the United Nations. Rome, Italy: FAO, pp. 1-113. [Internet: http://www.fao.org/uploads/media/3-Managing_RiskInternLores.pdf; downloaded on 2016-12-30.]

KIMULI SNL, AJAGBE MA, UDO EEU & BALUNYWA W. 2016. Strategic entrepreneurship and performance of secondary school in Uganda. *International Journal of Economic, Commerce and Management* IV(7):466-493.

KLEIN PG & LIEN LB. 2009. Diversification, industry structure, and firm strategy: an organizational economics perspective, economic institutions of strategy. *Advances in Strategic Management* 26:289-312.

KREMEN C, ILES A & BACON C. 2012. Diversified farming systems: an agro-ecological, systems-based alternative to modern industrial agriculture. *Ecology and Society* 17(4):44. [Internet: <http://www.EcologyandSociety.org/vol17/iss4/art44/>; downloaded on 2016-12-11.]

LECLÈRE D, HAVLIK P, FUSS S, SCHMID E, MOSNIER A, VALIN H, HERRERO M, KHABAROV N & OBSERSTEINER M. 2013. Impact uncertainty & the design of climate readiness in the global agricultural system. Johannesburg: IIASA (3rd conference of the International Institute for Applied Systems Analysis on agriculture, food and nutrition security and climate change; 4 Dec.) (Work-in-progress presentation.)

- LEKHANYA LM.** 2015. Public outlook on small and medium enterprises as a strategic tool for economic growth and job creation in South Africa. *Journal of Governance and Regulation* 4(4):412-418.
- LI X & RWE GASIRA K.** 2008. Diversification and corporate performance in china: an agency theory perspective. *Journal of Transnational Management* 13(2):132-147.
- LOVO S & VERONESI M.** 2015. Crop diversification and child health: empirical evidence from Tanzania. Leeds, UK: Centre for Climate Change and Policy, Grantham Research Institute on Climate Change and Environment. pp. 1-37. (Working paper no. 211)
- LOUW A & JORDAAN D.** 2016. Supply chain risks and smallholder farmers in the Gauteng province of South Africa. *Southern African Business Review* 20(2016):286-312.
- MACLEOD ND, MACDONALD CK & VAN OUDTSHOORN FP.** 2008. Challenges for emerging livestock farmers in Limpopo province, South Africa. *African Journal of Range & Forage Science* 25(2):71-77.
- MALEKA AM & FATOKI O.** 2016. The role of government in developing small, medium and micro enterprises in South Africa. *Journal of Social Sciences* 49(3):307-310.
- MALEMELA RN & YINGI L.** 2016. The role of local economic development in developing small medium enterprises: a case of Solomondale Community in the Limpopo province. Limpopo: SAAPAM. (5th annual conference proceedings of the South African Association of Public Administration.)
- MANEVSKA-TASEVSKA G, RABINOWICS E & SURRY RY.** 2016. Pure and compensated technical efficiency of Swedish dairy farms. *Agricultural and Food Science* 25:111-123.
- MATSUSAKA J.** 2001. Corporate diversification, value maximization, and organizational capabilities. *The Journal of Business* 74(3):409-431.
- MEENA LM, SEN C & AHA SK.** 2016. Implications of the methods of diversification: a comparative study. *International Journal of Environment, Ecology, Family and Urban Studies (IJEEFUS)* 6(1):95-102.
- MPANDELI S & MAPONYA P.** 2014. Constraints and challenges facing the small scale farmers in Limpopo Province, South Africa. *Journal of Agricultural Science* 6(4):135-143.
- MULWA JM, TARUS D & KOSGEI D.** 2015. Commercial bank diversification: a theoretical survey. *Journal of International Research in Management and Business Studies* 2(1):45-49.
- NDORO JT, MUDHARA M & CHIMONYO M.** 2014. Livestock extension programmes participation and impact on smallholder cattle productivity in Kwazulu-Natal: a propensity score matching approach. *Journal of Agricultural Extension* 24(2):62-80.
- NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT.** 2013. African agriculture, transformation and outlook. November. [Internet: <http://www.un.org/en/africa/osaa/pdf/pubs/2013africanagricultures.pdf>; downloaded on 2016-11-11.]
- NEPAD** see **NEW PARTNERSHIP FOR AFRICA'S DEVELOPMENT**
- OTIENO DJ, OLUOCH-KOSURA W, KARUGIA JT, DRUCKER A & REGE E.** 2006. Risk management in smallholder cattle farming: a hypothetical insurance approach in Western Kenya. Gold Coast: IAAE. (26th

conference of the International Association of Agricultural Economists; 12-18 Aug.) (Work-in-progress presentation.)

ORLU KN. 2016. A business model for sustainable SMME pig farming in the Central Free State of South Africa. Bloemfontein: Central University of Technology. (DBA-thesis.)

PENROSE ET. 1959. The theory of the growth of the firm. New York, NY: Oxford University Press.

PISA N, ROSSOUW R & VIVIERS W. 2015. Identifying industrial clusters for regional economic diversification: the case of South Africa's North West Province. *International Business & Economics Research Journal* 14(3):501-524.

PISANO GP. 2016. Towards a prescriptive theory of dynamic capabilities: connecting strategic choice, learning, and competition. Harvard Business School. (Working paper 16-146.)

PORTER ME. 1980. Competitive strategy: techniques for analyzing industries and competitors. New York, NY: Free Press.

RAMAILA M, MAHLANGU S & DU TOIT D. 2011. Agricultural productivity in South Africa: literature review, DAFF. Directorate: Economics Services Production. [Internet: <http://www.nda.agric.za/docs/GenReports/AgricProductivity.pdf>; downloaded on 2016-11-10.]

ROWLEY C & ULRICH D. 2016. Leadership in the Asia Pacific: a global perspective. London, UK: Routledge, Taylor & Francis Group.

RUMELT R. 1982. Diversification, strategy and profitability. *Strategic Management Journal* 3:359-369.

SAMBASIVAN M, ASRARHAGHIGHI E & ABD A. 2016. A comprehensive measure of product and international diversifications. *Journal of Insurance and Financial Management* 01.01.04(2016):54-83.

SANTALO J & BECERRA M. 2004. The effect of diversification on performance revisited: diversification discount, premium, or both? Madrid, Spain: Instituto de Empresa. (Working paper 04-36.)

SAPPO see **SOUTH AFRICAN PIG PRODUCERS' ORGANISATION**

SEGNON AC, ACHIGAN-DAKO EG, GAOUE OG & AHANCHÉDÉ A. 2015. Farmer's knowledge and perception of diversified farming systems in sub-humid and semi-arid areas in Benin. *Sustainability* 2015(7):6573-6592.

SENG K. 2014. Determinants of farmer's agricultural diversification: the case of Cambodia Asian. *Journal of Agriculture and Rural Development* 4(8):414-428.

SHARAUNGA S & MUDHARA M. 2016. Dimensions of empowerment influencing women in KwaZulu-Natal to diversify away from agricultural-based livelihoods. *Agrekon* 55(1-2):103-132.

SHYU J & CHEN Y. 2009. Diversification, performance, and the corporate life cycle. *Emerging Markets Finance & Trade* 45(6):57-68.

SINGH K & MAHMOOD IP. 2009. Challenges of diversification for SMEs. National University of Singapore. [Internet: <http://newshub.nus.edu.sg/news/0910/PDF/CHALLENGES-bt-20Oct-p13.pdf>; downloaded on 2016-12-12.]

SOJI Z, CHIKWANDA D, CHIKWANDA AT, JAJA IF, MUSHONGA B & MUCHENJE V. 2015. Relevance of the formal red meat classification system to the South African informal livestock sector. *South African Journal of Animal Science* 45(3):263-277.

SONG S, PARK S & LEE S. 2017. Impacts of geographic diversification on restaurant firms' risk: domestic vs. international diversification. *International Journal of Hospitality Management* 16(2017):107-118.

SOUTH AFRICAN PIG PRODUCERS' ORGANISATION. 2017. About SAPPO. [Internet: <https://www.sapork.biz/about-sappo/>; downloaded on 2017-08-18.]

UMESIOBI DO. 2000. Animal production: basic principles and practices. Owerri, Nigeria: Bean Blaise Publication.

WAN WP, HOSKISSON RE, SHORT JC & YIU DY. 2011. Resource-based theory and corporate diversification: accomplishment and opportunities. *Journal of Management* 37:1335-1368.

WILLIAMSON OE. 1979. Transaction cost economics: the governance of contractual relations. *Journal of Law and Economics* 22(2):233-261.

YİĞİT I & TÜR S. 2012. The relationship between diversification strategy applications and organizational performance according to Herfindahl Index Criteria. *Procedia – Social and Behavioral Sciences* 58(2012):118-127.

ZANDER K. 2008. Diversification and specialization as development strategies in organic farms. Modena: IFOAM. (16th IFOAM Organic World Congress; 16-20 June.) (Work-in-progress presentation.)