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THE COMPETITIVENESS OF AGRIBUSINESSES IN SOUTH AFRICA IN RELATION TO ENTREPRENEURSHIP AND COMPLIANCE WITH STANDARDS

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Abstract. There has been a proliferation of scholarly and practitioner interest in improving the competitiveness of small and medium agribusinesses involved in value-added processing activities in Africa. However, despite such interest, there is a paucity of entrepreneurship-focused research on the competitiveness of small and medium agribusinesses. Consequently, the purpose of this study was to test the relationship between the influence of entrepreneurial orientation and the compliance with standards of value-added processing facilities on the competitiveness of small and medium agribusinesses. Moreover, the moderating effects of entrepreneurial capital on this relationship were tested since entrepreneurial resources are firm-specific, potentially heterogeneous, and may be converted into tangible resources and effective market power. A survey was administered to a sample of 243 small and medium agribusinesses involved in value-added processing activities in South Africa. The study used hierarchical and sequential regression analysis to test the study models, which included testing for moderation effects. The results highlight that agribusiness competitiveness was enabled by higher levels of entrepreneurial capital, which is used by enterprises to integrate and leverage entrepreneurial orientation. It is recommended that policy makers prioritise and promote entrepreneurial orientation and develop entrepreneurial capital by offering programmes and incubation facilities targeting agribusinesses involved in value-added processing activities.

Keywords: agribusiness, competitiveness, entrepreneurial capital, entrepreneurial orientation, and value-added processing standards

INTRODUCTION

The potential of value-added processing activities to improve the competitiveness of small and medium agribusinesses has recently received significant attention from both scholars and practitioners (Fitz-Koch et al., 2018; Mhazo et al., 2012; Nwafor et al., 2021). Studies indicate that value-added processing activities as value chain actions may either be nutritional, technological, or economic insofar as raw agriculture products undergo alterations into usable items such as food, fibre, fuel, and industrial raw materials (FAO, 2017; Kierczynska, 2019). Value may be added by agribusinesses in various forms such as quality, innovativeness, and cost advantage, where different value chain actors receive economic rents, and where value creation often hinges on entrepreneurship (Melembe et al., 2021; Ngarava, 2021; Owoseni and Adeyeye, 2012).

It is increasingly recognised (e.g., Urban, 2018) that idiosyncratic factors such as the situational, environmental, and regulatory setting influence the competitiveness of agribusinesses involved in value-added processing activities. Competitiveness relates to the capability to produce and market products that are superior to those offered by competitors, taking into consideration price and non-price qualities, and where consumers prefer to purchase certified and branded food products (Ding and Veeman, 2019; Yin et al., 2018). As a response to such

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certification demands, the number of agribusinesses that are adopting food safety and quality assurance systems is increasing (Albersmeier et al., 2010).

Moreover, agribusiness competitiveness in terms of retention of existing customer base and increase of value-added processing facilities is likely to be influenced by the level of entrepreneurial capacity at the disposal of the agribusiness (Fitz-Koch et al., 2018; Gellynck et al., 2015). Previous studies indicate that an entrepreneurial orientation (EO) is positively associated with performance for agribusinesses (Gellynck et al., 2015; Mirzaei et al., 2016; Serna et al., 2017), and that the EO-performance relationship is likely to be context specific (Wales et al., 2021; Schröder et al., 2021). Entrepreneurial resources are expressed as firm-specific, potentially heterogeneous, and not easily imitated, and they contribute to a business's competitive advantage (Man et al., 2002). Some findings indicate that entrepreneurial competencies (EC) in terms of human, social, and economic capital positively influence the competitive performance of agribusinesses and can manifest into an EO which is likely to cause agribusinesses to fall in line with any requisite regulatory demands more readily (Van der Merwe and Lotz, 2013; Urban and Maswabi, 2021).

The motivation driving this study stems from a paucity of empirical entrepreneurship-focused research on agro-processing activities within the African context (Arimany-Serrat et al., 2019). The rationale for this study becomes particularly significant with an understanding that small and medium businesses in South Africa show low levels of entrepreneurial capital by both regional and international standards (Urban, 2018; Urban and Maswabi, 2021). In addressing this knowledge deficiency and practical dilemma, the purpose of this study is to determine to what extent the relationship between EO and compliance of value-added processing facilities with standards (CoPS) influences agribusiness competitiveness. Additionally, the moderating effects of EC are accounted for in this relationship in the small and medium agribusiness context.

This study makes the following contributions to the literature on agribusiness management. First, the study provides a broader and deeper understanding on the extent of agribusiness competitiveness by investigating the effects of both entrepreneurship factors and the institutional setting in terms of CoPS. Second, recognising that African agribusiness research often focuses on primary agriculture activities (Choudhury et al., 2020; Teklehaimanot et al., 2017), in mitigation of research homogenization, this article contributes towards increasing the plurality of scholarship on this important topic (Dana et al., 2018) by focusing on value-added processing by small and medium agribusinesses in South Africa. Lastly, the study contributes to a resolution of the challenges facing the advancement of agribusiness management in Africa. The challenge for many small and medium agro-processing agribusinesses in Africa, who are excluded from mainstream agro/food value chains, is to increase their competitiveness by injecting an EO and leveraging EC into their businesses. In this way, an advancement of agribusiness management is made by focusing on entrepreneurial resources in terms of human-social-economic capital and how these contribute to the competitive performance of agribusinesses. Hence, the results and conclusions of the study may be replicated and generalised across other African countries to explain variation in agribusiness competitiveness when subject to the same predictor variables as conceptualized in this study.

ENTREPRENEURSHIP AND AGRIBUSINESS IN THE CONTEXT OF REGULATIONS

Entrepreneurship has long been associated with innovation and encompasses both EO and EC insofar as it depends on entrepreneurial behaviour and the entrepreneurs' ability to develop profit generating capabilities in the enterprise to ensure its competitiveness (Dana et al., 2018). The entrepreneurial capital required to leverage resources has long been acknowledged as a critical entrepreneurial capability in advancing the performance of an enterprise, specifically in a developing country context (Dana et al., 2018; Urban, 2018). The concept of EO is described as the ability of an enterprise to strategize and implement entrepreneurial behaviours throughout the organization in terms of three extensively documented dimensions, namely proactiveness, innovativeness, and risk-orientation (Wales et al., 2021). Studies on EO in the context of agribusiness show that agribusinesses which are entrepreneurial and market oriented are more likely to adopt new and/or significantly improved products and services, while environmental turbulence increases the degree of entrepreneurial and market orientation in these firms (Mirzaei et al., 2016).

Similarly, EC, with its origins in human capital theory, suggests that knowledge in the form of capabilities and competencies increases entrepreneurial performance (Unger et al., 2011). According to Bourdieu (1986), firms possess various forms of capital, such as human, social, and economic capital, that are interchangeable and may be converted into tangible resources and effective power. Previous studies have examined the influence of various forms of capital on agribusinesses (Teklehaimanot et al., 2017; Thindisa, 2014; Tyenjana and Taruvinga, 2019), and a common theme which emanates from these studies is that EC is best analysed as a multi-dimensional construct which then has links to increased performance. In a multi-country study of early-stage entrepreneurs, a positive relationship between entrepreneurial competencies (perceived capacity, perceived opportunity, and role models) and the performance of smallholder farmers was found to positively and significantly influence performance, based on 125 cases selected from 59 countries (Barazandeh et al., 2015).

In the agribusiness sector, regulatory bodies play a pivotal role in instigating rulemaking, standard setting, monitoring compliance, and enforcement. Prior studies in this regard suggest that hostile institutional regimes and regulatory environments are likely to negatively affect the competitive performance of agribusinesses (FAO, 2017; Kierczynska, 2019). According to the International Trade Administration Commission of South Africa (ITACSA, 2016), agribusinesses whose value-added processing facilities are CoPS non-compliant were likely to display an uncompetitive performance. In terms of preventative and risk-based food manufacturing standards, institutional regimes such as CoPS are a prerequisite for offtake agreements which benefit small and medium agribusinesses struggling to implement systems due to low levels of tangible resources and technical capability (Manasoe et al., 2022). The compliance of agribusinesses with regulatory standards improves product credibility and fetches premium prices as consumers prefer to purchase certified and branded products (Ding and Veeman, 2019; Melembe et al., 2021). Research emphasises that many agro-processing businesses require the careful navigation of complex and sophisticated regulations that typically require extensive EC (Mmbengwa et al., 2020; Neves et al., 2019; Van Lin et al., 2018).

MATERIALS AND METHODS

A survey-based, quantitative, cross-sectional design which relied on multivariate statistical analyses was used. The study was conducted in South Africa, in 2019, across all nine provinces: see Figure 1. The unit of analysis was the agropreneur and/or owner-manager who represented their small and medium value-added processing agribusiness (Neves et al., 2019). The population in the study was classified as the total collection of small and medium fruit value-added processing agribusinesses in South Africa (n = 2322) (Van Lin et al., 2018).

Fig. 1. Map of South Africa
Source: Wikimedia (2022).

Fruit value-added processing agribusinesses were filtered according to the South African government's definition of small and medium businesses, which are described as those agribusinesses that employ between 5 and 100 people and which have a lower than R 5 million annual turnover (RSA, 2019). Various membership databases of industry and commodity associations relating to fruit value-added processing agribusinesses informed the sampling frame, which included the South African Dried Fruit Technical Services (SADFTS), Food South Africa (FSA), Fine Foods South Africa (FFSA), and Agricultural Business Chamber (AgBIZ), as well as various Provincial Departments of Agriculture. The total number of small and medium fruit value-added processing agribusinesses observed in the various databases was 884. These were collectively adopted as the sampling frame from which stratified random sampling

was drawn. Stratified random sampling was used for the selection of the sample based on the number of employees per agribusiness and different *strata* of distinct fruit being processed by the agribusinesses (Neves et al., 2019). The benefit of using the stratified random sampling technique is that it has the potential to provide an accurate representation of the population based on idiosyncratic factors used to demarcate the population and separate them into various strata (Field, 2009). Fruit strata included sub-tropical fruits, citrus, pome fruits, stone fruits, and nuts, from which a sample of agribusinesses from each group was randomly selected. Fruit value-added processing agribusinesses were then extrapolated such that within each fruit strata being value-added processed by the agribusinesses, the researcher selected randomly from each of the strata of the sample. The focus on a single industry in terms of the fruit value chain is useful in terms of sample representativeness as it is likely to allow the results and conclusions of the study to be generalised to similar contexts. Indeed, by focusing on value-added processing agribusinesses in a single industry it is anticipated that a greater homogeneity of contexts will be achieved, which then addresses sampling concerns of broad applicability versus perfect suitability for narrower groups (Dana et al., 2018).

Data was collected through a structured research instrument that was administered electronically to owner-managers of small and medium fruit value-added processing agribusinesses. Data collection was affected by an outbreak of listeriosis in South Africa during the data collection phase, as well as the political electioneering phase wherein land reform was a political issue, and subsequently agro-food exhibitions across the length and breadth of South Africa were also targeted. The research instrument had different sections relating to participant information sheet, screening survey questionnaire, and the main survey questionnaire inclusive of demographics, EC, EO, and CoPS construct, as well as the agribusiness competitiveness construct. As the moderation variable, EC was operationalised using four dimensions with fourteen items centred on economic, human, social, and symbolic capital. Each form of capital had sub-dimensions where, for instance, human capital was operationalised in terms of training, education, experience, and knowledge emanating from questions such as years in education, years of experience as an owner-manager, years of work experience, and previous experience in venture initiation (Unger et al., 2011). The EO measure as an independent variable reflected the three dimensions of innovativeness, risk-taking, and proactiveness, consisting of nine items. Using the existing EO measure has the advantage of theoretical backing, a multidimensional construct where theoretically meaningful relationships have already been established, thus allowing more refined knowledge to evolve (Wales et al., 2021). As an independent variable, CoPS was operationalised in terms of whether the processing facility complied with norms and standards in the past 3 years. Eleven items were used to measure CoPS and included statements such as 'this agribusiness has dedicated budget towards auditing and certification of the fruit processing facility'. As the dependent variable, agribusiness competitiveness was operationalised as a representation of rivalry among competing firms for market share and evaluated using nine financial and non-financial measures such as the ability of the firm to retain its customer base, ability of the firm to increase its market size, ability to increase the productive capacity of the firm, and increase in range of processed products manufactured. These measures were surveyed over the last three years since this period is wide-ranging enough to account for seasonal and cyclical variations in different agribusiness practices. Absolute growth was simply computed as the size at 1 year minus the size of the previous year. All items were measured along a six-point Likert-type scale, ranging from 'mostly disagree' = (1) to 'mostly agree' = (6), where respondents were required to indicate the extent of their agreement with each statement. In some instances, items were reverse coded in the scale analyses, and the wording was adjusted to reflect the South African context. Several ethical issues regarding consent, anonymity, and confidentiality were taken into consideration during the data collection phase. This self-administered questionnaire, accompanied by a cover letter, instructions, and various questions, after several reminders yielded a final sample of 243 respondents, representing a 38% response rate, which is deemed to be acceptable for electronic surveys of this nature.

The study used hierarchical and sequential regression analysis techniques. The hierarchical regression approach is appropriate when analysing multiplicative terms in regression analysis. Additionally, it is appropriate when analysing generally highly correlated predictor variables such as various dimensions of EO and EC. To test for moderation, the interaction effect between EO

+ EC; CoPS + EC; and EO + EC was examined to test whether the moderation effect was [1] enhancing, [2] buffering, or [3] antagonistic. Enhancing moderation is when EC as a moderator increases the effect of the predictor on competitiveness. In contrast, buffering moderation is when EC as a moderator decreases the effect of the predictor variable, while antagonistic moderation is when EC as a moderator reverses the effect of the predictor variable on competitiveness. The coefficient of determination (R^2) for this model was formulated as:

Competitiveness of the agribusiness = ($\beta_0 + \beta_1 EO + \beta_2 EC + \beta_3 (EO*EC) + \varepsilon$ was greater than model 2 stated as: *Competitiveness of the agribusiness* = ($\beta_0 + \beta_1 EO + \beta_2 EC$) + ε and greater than model 1 stated as: *Competitiveness of the agribusiness* = ($\beta_0 + \beta_1 EO$) + ε and the model equation being positive and statistically significant, it was concluded that enhancing moderation was successful. Lastly, the cumulative R^2 was computed.

RESULTS AND DISCUSSIONS

The results of the sample characteristics are self-explanatory and displayed in Table 1. Some interesting observations from Table 1 are that, for this sample of respondents, the main sources of raw material were from their own farms (40%), followed by informal markets (41%), and lastly fresh produce markets (18%). This distribution is probably because of cost advantages emanating from cheaper sources of raw materials which may solicit competitive performance (Kierczynska, 2019). Furthermore, most of these small and medium fruit value-added processing agribusinesses were situated predominantly in three provinces, namely Limpopo (22%), Gauteng (21%), and the Western Cape (19%), which is consistent with the requirement for the establishment of food manufacturing facilities to be closer to sources of raw materials to benefit from cost advantages.

Table 2 shows that the overall mean scores were relatively low, with the highest mean score observed for EO (M = 1.83, SD = .08), followed by EC (M = 1.82, SD = 0.54) then CoPS (M = 1.72, SD = .11). Moreover, based on the relatively moderate standard deviations observed, little variation was observed among respondents' scores. The correlation matrix indicates that agribusiness competitiveness was significantly and positively correlated in terms of: EC r (*243*) = 0.669; R^2 = .45; p < .00; EO r (*243*) = 0.892; R^2 = .79; p < 0.00; and CoPS r (*243*) = 0.919; R^2 = .84; p < 0.01.

Table 1. Sample characteristics and statistics

Fruit value-add-processing agribusinesses		
Description	Frequency	Percentage
Fruit processing agribusinesses		
Number of small and medium agribusinesses	243	100
Gender		
Male	150	62
Female	93	38
Age (years)		
18–21	1	1
21–30	5	2
31–40	108	44
41–50	77	32
Over 51	52	21
Age of small and medium agribusiness in years		
Below 3 years	3	1
4–10	72	30
11–15	83	34
1620	33	14
Above 21	52	21
Highest level of education		
Secondary	1	1
Certificate	2	1
Diploma	85	35
Degree	149	61
Honours, Masters & PhD	6	2
Provincial location of the firm		
Eastern Cape	11	5
Gauteng	51	21
Kwazulu-Natal	15	6
Limpopo	54	22
Mpumalanga	30	12
Northern Cape	20	8
North-West	17	7
Western Cape	45	19
Scheme your fruit processing agribusiness was audited or certified over the last 3 years		
Pre-Requisite Programme	10	4
HACCP	109	45
FSSC, 22000	75	31
Others	49	20
Source of raw material over the last 3 years		
Fresh produce market	45	18
Own farm	97	40
Local informal market	99	41
Other	2	1

Source: own elaboration.

Table 2. Descriptive statistics and correlation matrix analysis

Construct	Mean	SD	EC	EO	CoPS	Competitiveness	EC X EO	EC X CoPS	EO X CoPS	EC X EO X CoPS
EC	1.82	.054	1							
EO	1.83	.080	.753**	1						
CoPS	1.72	.11	.770**	.865**	1					
Competitiveness	1.57	.15	.669**	.892**	.919**	1	.852**	.921**	.939**	.910**
Control (FC)	1.87	.05	.749**	.784**	.804**	.731**	1			
Contingency effects										
EC × EO	3.34	.23	.909**	.959**	.880**	.852**	1	.880**		
EC × CoPS	3.14	.27	.769**	.864	.899**	.921**	.880**.	1		
EO × CoPS	3.21	.24	.865**	.870**	.891**	.939**	.941**	.883**	1	
EC × EO × CoPS	5.57	.71	.771**	.857**	.990**	.910**	.876**	.990**	.936**	1

** Correlation is significant at the 0.01 level (1-tailed).
Source: survey data.

Correlation and regression analysis were subsequently computed to evaluate the hypothesized relationships between the variables. Table 2 depicts the descriptive statistics and the Pearson correlation coefficients. In contrast, the results for contingency effects indicate that agribusiness competitiveness was significantly and strongly positively correlated in terms of the following interactions: EC x EO $r\,(243) = 0.852$; $R^2 = .72$; $p < 0.01$; EC x CoPS $r\,(243) = 0.918$; $R^2 = .84$; $p < 0.01$; and EO x CoPS $r\,(243) = 0.936$; $R^2 = .88$; $p < 0.01$. Table 3 depicts the regression results for the interaction model $FCompt = (\beta_0 + \beta_1 CoPS + EC) + \varepsilon$ and shows the moderation effects. The variance inflation factor (VIF) (not shown) was computed to determine evidence of multi-collinearity based on the coefficients of correlation matrix. Results are as follows for EO (VIF = 4.27, $p < .00$), EC (VIF = 2.65, $p < .00$) and CoPS (VIF = 4.56, $p < .00$). All coefficients were ≤ 5 as an acceptable range (Field, 2009).

The regression results in Table 3 reveal that $R^2 = .848$, implying that 85 percent of the variance in agribusiness competitiveness was explained by CoPS + EC interaction. The R^2 was significant $F\,(1,242 = 670.970$, $p = .00)$. Hence, R^2 effect size was categorised as very strong. In contrast, the regression results for moderation effect $FCompt = \beta_0 + \beta_1 CoPS + \beta_2 EC + (CoPSxEC) + \varepsilon$

Table 3. Summary of regression results for main effect (agribusiness competitiveness and compliance of value-add-processing facilities to standards) and interaction effects (CoPS × EC)

Regression models	R	R^2	Adjusted R^2	Std. error	Change statistics				
					R^2 change	F change	df 1	df 2	p -value
$FCompt = (\beta_0 + \beta_1 CoPS) + \varepsilon$	.919[a]	.844	.844	.060	.844	1308.827	1	242	.00
$FCompt = (\beta_0 + \beta_1 CoPS + EC) + \varepsilon$	.921[b]	.848	.847	.059	.848	670.970	1	242	.00
$FCompt = (\beta_0 + \beta_1 CoPS + \beta_2 EC + (CoPS \times EC) + \varepsilon$	.931[c]	.867	.857	.783	.931	454.554	1	242	.00

[a] Predictors: CoPS. [b] Predictors: CoPS + EC. [c] Predictors: CoPS + EC + (CoPSxEC).
Source: survey data.

indicated that R^2 = .867, implying that 87 percent of the variance in agribusiness competitiveness was explained by CoPS + EC + (CoPSxEC). Hence, the R^2 was significant F (1,242 = 454.554, p = .00), and the R^2 effect size was categorised as very strong, indicating that the determination of significance tests is statistically practical.

Assessment of the contingency effects indicated that the R^2 for interaction model (CoPS + EC) and moderation model {CoPS + EC + (CoPS × EC)} depict the difference from .848 to .867, indicating the smallest differential, albeit one which is statistically significant at the $p < 0.01$ level. The implication was that the contingency effect was enhancing. These results suggest that agribusinesses with high CoPS exhibit high competitiveness. The findings highlight how a high EC drives the ability of small and medium agribusinesses to assimilate and respond to the prevailing institutional setting in terms of CoPS. These findings resonate with the literature, where it was noted that the regulatory regime for the agro-processing industry is complex and dynamic (Ding and Veeman, 2019), which in the context of South Africa, small and medium agribusinesses (Thindisa, 2014) require entrepreneurial capital. Table 4 depicts the regression results for interaction model $FCompt = (\beta_0 + \beta_1 EO + EC) + \varepsilon$ and moderation effect.

The results in Table 4 reveal that R^2 = .725, implying that 72 percent of the variance in agribusiness competitiveness was explained by EO + EC interaction. Hence, the R^2 was significant F (1,242 = 464.993, p = .00). Therefore, R^2 effect size was categorised as strong. In contrast, the regression results for moderation effect $FCompt = (\beta_0 + \beta_1 EO + \beta_2 EC + (EOxEC) + \varepsilon$ indicate that R^2 = .798, implying that 80 percent of the variance in agribusiness competitiveness was explained by EO + EC + (EOxEC). Hence, the R^2 was significant F (1,242 = 315.231, p = .00). Therefore, R^2 effect size was categorised as strong. Assessment of the contingency effects indicated that the R^2 for the interaction model (EO + EC) and moderation model {EO + EC + (EOxEC)} depicts the difference from .725 to .798, which is statistically significant at the $p < 0.01$ level. The implication is that the contingency effect was enhancing. These findings suggest that EC manifests into EO, which propels the agribusiness to be proactive, innovative, and risk-taking in response to market demands (Van der Merwe and Lotz, 2013). Entrepreneurial resources, specifically EC and EO, are necessary to advance agribusiness competitiveness, while at the same time, the institutional setting in terms of CoPS, as depicted in the model results, is a useful enabler to agribusiness competitiveness. The study findings are consistent with previous studies that indicate that agribusinesses with a higher level of EO are likely to harbour an appetite for innovativeness and assume risk-taking through investing in novel product ranges that conform to industry-market standards (Mirzaei et al., 2016).

CONCLUSION AND RECOMMENDATIONS

The purpose of the study was to determine the extent to which the competitiveness of small and medium agribusinesses in South Africa is influenced by EO and CoPS, while accounting for the moderating effects of EC. Based on the empirical findings, it was established that agribusiness competitiveness is significantly influenced by the interaction effects between EO and CoPS, while a higher level of EC further drives the

Table 4. Summary of regression results for main effect (agribusiness competitiveness and EO) and interaction effects (EO × EC)

Regression models	R	R^2	Adj R^2	Std. error	Change statistics				
					R^2 change	F change	df 1	df 2	p value
$FCompt = (\beta_0 + \beta_1 EO) + \varepsilon$	.892[a]	.795	.794	.069	.892	933.786	1	242	.00
$FCompt = (\beta_0 + \beta_1 EO + EC) + \varepsilon$	.852[b]	.725	.723	.069	.893	464.993	1	242	.00
$FCompt = (\beta_0 + \beta_1 EO + \beta_2 EC + (EO \times EC) + \varepsilon$	.893[c]	.798	.796	.068	.893	315.231	1	242	.00

[a] Predictors: EO. [b] Predictors: EO + EC. [c] Predictors: EO + EC + (EO × EC).
d. Outcome variable: Agribusiness competitiveness
Source: survey data.

competitiveness of small and medium agribusinesses in South Africa.

There are several important recommendations emanating from the study's empirical findings. First, rather than passively reacting to institutional setting in terms of CoPS, agropreneurs and agribusinesses should take advantage of its favourable impact by leveraging EC and EO. Second, a round-table dialogue should be established to serve as a platform for the mitigation of institutional barriers to highlight the positive effects of CoPS on EO and ultimately competitiveness. Moreover, a digital based standard certification portal is proposed to disseminate the food safety requirements to a wider audience at a reduced cost and increase its adoption rate amongst small and medium agribusinesses. Third, entrepreneurship pedagogy should be prioritized as a vehicle to improve agribusiness competitiveness. Entrepreneurship training must be a requisite in agricultural development programs, where entrepreneurship capacity-building programs target local economic development officers that are at the coalface of the implementation of agricultural development initiatives. Fourth, there is an urgent need to establish industry-specific incubation facilities to service agropreneurs and agribusinesses to attain experiential competencies and capabilities in entrepreneurship and fruit value-added processing. Last, agropreneurs and agribusinesses should consider entering into partnerships, mentorships, and coaching programs with private companies to enhance their EC and EO quotients. While the present study focused on CoPS as an institutional variable influencing competitiveness, it is recommended that future research focus on institutional mechanisms such as the broader market structural environment and its impact on small and medium agribusinesses.

REFERENCES

Albersmeier, F., Schulze, H., Spiller, A. (2010). System dynamics in food quality certification: development of an audit integrity system. Int. J. Food Syst. Dyn., 1(1), 69–81.

Arimany-Serrat, N., Tarrats-Pons, E., Nylund, P. (2019). The development of high-growth agribusinesses in the aftermath of the 2008 fiscal crisis. World Rev. Entrep. Manag. Sust. Dev., 15(4), 441–459.

Barazandeh, M., Parvizian, K., Alizadeh, M., Khosravi, S. (2015). Investigating the effect of entrepreneurial competencies on business performance among early-stage entrepreneurs Global Entrepreneurship Monitor (GEM 2010 survey data). J. Global Entrep. Res., 5(18), 1–12.

Bourdieu, P. (1986). The forms of capital. In: Handbook of Theory and Research for the Sociology of Education. New York. Greenwood.

Choudhury, A., Jones, J., Opare-Addo, M. (2020). Perceived risk and willingness to provide loan to smallholder farmers in Ghana. J. Afr. Bus., 23(1), 23–40.

Dana, L.P., Ratten, V., Honyenuga, B.Q. (2018). Introduction to African entrepreneurship. In: L.P. Dana, V. Ratten, B. Honyenuga (Eds.), African entrepreneurship. African entrepreneurship: Challenges and opportunities for doing business. Palgrave Studies of Entrepreneurship in Africa. London. Palgrave Macmillan.

Ding, Y., Veeman, M. (2019). Chinese consumers preferences for quality signals on fresh milk: Brand versus certification. Agribus. Int. J., 35(1), 593–609.

FAO (Food and Agriculture Organization of the United Nations). (2017). The future of food and agriculture: Trends and challenges. Rome: FAO Publishing.

Field, A. (2009). Discovering statistics using SPSS. London: Sage Publication.

Fitz-Koch, S., Nordqvist, M., Carter, S., Hunter, E. (2018). Entrepreneurship in the agricultural sector: A literature review and future research opportunities. Entrep. Theor. Pract., 42(1), 129–166.

Gellynck, X., Cardenas, J., Pieniak, Z., Verbeke, W. (2015). Association between innovative entrepreneurial orientation, absorptive capacity, and farm business performance. Agribusiness, 31(1), 91–106.

ITACSA (International Trade Administration Commission of South Africa). (2016). Agro-processing markets and related trade trends: Opportunities and challenges for South Africa. South Africa.

Kierczynska, S. (2019). Relationship between producers and processors in terms of fruit production and prices for processing in Poland. J. Agribus. Rural Dev., 4(54), 301–317.

Man, T., Lau, T., Chan, K. (2002). The competitiveness of small and medium enterprises: A conceptualization with a focus on entrepreneurial competencies. J. Bus. Vent., 17(2), 123–142.

Manasoe, B., Mmbengwa, V.M., Lekunze, J.N. (2022). Evaluating domains associated with economic empowerment of small-scale female agro processors in South Africa. J. Agribus. Rural Dev., 2(64), 115–130.

Melembe, T., Senyolo, G.M., Mmebengwa, V.M. (2021). Factors influencing value addition agricultural choices within smallholder farming agribusinesses of Gauteng province in South Africa. J. Agribus. Rural Dev., 2(60), 183–191.

Mhazo, N., Mvumi, B., Nyakudya, E., Nazare, M. (2012). The status of the agro-processing industry in Zimbabwe with

reference to the small and medium enterprises. Afr. J. Agric. Res., 7(11), 1607–1622.

Mirzaei, O., Micheels, E., Boecker, A. (2016). Product and marketing innovation in farm-based businesses: the role of entrepreneurial orientation and market orientation. Int. Food Agribus. Manag. Rev., 19(1), 99–130.

Mmbengwa, V.M., Rambau, K., Qin, X. (2020). Key factors for the improvement of smallholder farmers' participation in agro-processing industries of Gauteng province of Republic of South Africa: lessons for the extension advisory services. South Afr. J. Agric. Exten., 48(2), 153–165.

Neves, M., Trombin, V., Neto, L., Kalaki, R. (2019). Orange Juice Chain: Past, Present and Future. In: N. Neves, M. Neves (Eds.), Cape Town. Citrus Growers Association of South Africa.

Ngarava, S. (2021). Identifying priority areas for value creation in the Zimbabwean Pork Industry. J. Agribus. Rural Dev., 3(61), 337–345.

Nwafor, C.U., Ogundeji, A.A., Nwafor, I.C. (2021). Review of agricultural extension and advisory services in Sub-Saharan countries. Progress with private sector involvement. J. Agribus. Rural Dev., 3(61), 271–282.

Owoseni, O., Adeyeye, C. (2012). The role of entrepreneurial orientations on the perceived performance of small and medium scale enterprises in Nigeria. Int. Bus. Manag., 5(2), 148–154.

RSA (Republic of South Africa) (2019). Government Gazette No. 42304. Department of Small Business Development, Revised Schedule 1 of the National Definition of Small Enterprise. Pretoria. Government of RSA.

Schröder, K., Tiberius, V., Bouncken, R.B., Kraus, S. (2021). Strategic entrepreneurship: mapping a research field. Int. J. Entrep. Beh. Res., 27(3), 753–776.

Serna, M., Martinez, J., Parga, N. (2017). The impact of the entrepreneurial orientation on SME performance: Evidence from the Mexican Agribusiness. Institutions, 7(4), 6–13.

South Africa Map (2022). Google, Wikimedia. Retrieved from: https://www.google.com/url?sa=i&url=https%3A%2F%2Fcommons.wikimedia.org%2Fwiki%2FFile%3AMap_of_South_Africa_with_English_labels.svg&psig=AOvVaw2teNhUePTDcQD5BGYW15_n&ust=1666180053896000&source=images&cd=vfe&ved=0CA0QjhxqFwoTCIiis4Tb6foCFQAAAAAdAAAAABAE

Teklehaimanot, M., Ingenbleek, P.T., van Trijp, H.C. (2017). The transformation of African smallholders into customer value creating businesses: a conceptual framework. J. Afr. Bus., 18(3), 299–319.

Thindisa, L.M.V. (2014). Participation by Smallholder Farming Entrepreneurs in Agro-Processing Activities in South Africa. Unpublished Masters Dissertation. South Africa. University of Witwatersrand.

Tyenjana, A., Taruvinga, A. (2019). Determinants of the rural on-farm livelihoods diversification: The case of Intsika Yethu Local Municipality, Eastern Cape, South Africa. J. Agribus. Rural Dev., 4(54), 373–384.

Unger, J.M., Rauch, A., Frese, M., Rosenbusch, N. (2011). Human capital and entrepreneurial success: A meta-analytic review. J. Bus. Vent., 26(3), 341–358.

Urban, B. (2018). The influence of the regulatory, normative, and cognitive institutions on entrepreneurial orientation in South Africa. Int. J. Entrep. Innov., 20(10), 1–12.

Urban, B., Maswabi, L. (2021). Determining the mediating effects of entrepreneurial self-efficacy on the relationship between organizational antecedents and entrepreneurial orientation. Manag. Glob. Trans.: Int. Res. J., 19(2), 145–166.

Van der Merwe, S., Lotz, H. (2013). An investigation of the influence of entrepreneurial orientation on the perceived success of agribusinesses in South Africa. South Afr. J. Bus. Manag., 44(1), 15–32.

Van Lin, M., Van Den Bos, A., Sterras, N. (2018). The current state of fruit and vegetable agro processing in South Africa. Study commissioned by the Netherlands Enterprise Agency. Retrieved from: https://www.agroberichtenbuitenland.nl/actueel/nieuws/2019/01/07/the-current-state-of-fruit--vegetable-agro-processing-in-south-africa

Wales, W.J., Kraus, S., Filser, M., Stöckmann, C., Covin, J. (2021). The status quo of research on entrepreneurial orientation: conversational landmarks and theoretical scaffolding. J. Bus. Res., 128(1), 564–577.

Yin, S., Hu, W., Chen, Y., Han, F., Wang, Y., Chen, M. (2018). Chinese consumer preferences for fresh produce: Interaction between food safety labels and brands. Agribus. Int. J., 35(1), 53–68.