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# FACTORS INFLUENCING ENTREPRENEURIAL ORIENTATION LEVELS AMONG AGRI-INPUT SUPPLIERS IN NAKURU COUNTY, KENYA

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## ABSTRACT

Start-ups and small-scale agri-input suppliers (AIS) play critical roles in Kenya's agricultural development sector. Nakuru county is the leading producer of flowers, potatoes, milk and vegetables in Kenya; creating an enabling environment for AIS start-upsto thrive. However, competition from established, medium and large-scale agri-enterprises put them at risk of closure or inhibition of their potential to survive the environmental turbulence and grow into medium or large-scale enterprises.Entrepreneurial orientation (EO) manifestations, in the form of proactiveness, innovation, and risk-taking, among other internal aspects, are considered necessary for any agri-enterprises' start-up success, as they positively influence their growth and performance. The objective of this study was to understand factors influencing EO levels among agri-input suppliers in Nakuru County, Kenya.A study involving a sample of 137 agri-input suppliers operating in Nakuru County was carried out using face-to-face semi-structured questionnaire. Data collected were analysed using Principal Component Analysis, Quartile technique, and the Generalised Ordered Logit (GOL) model. Overall, the variety of traded agri-input products showed the most significant positive influence on EO levels, followed by possession of business plan, partnership, customers' contracts and gender factors, in that order of magnitude. On the other hand, years ofagri-enterprise operation and the number of agri-input business owners showed negative influence on EO levels. The list of prioritised significant factors is important in informing agripreneurs, policy makers and socio-economic development agencies when designing development programmes and strategies aimed at promoting agripreneurship in Kenya.

*Key Words*: Agripreneur, entrepreneurial orientation, proactiveness, start-ups

## RÉSUMÉ

Les start-ups et les petits fournisseurs d'intrants agricoles (FIA) jouent un rôle essentiel dans le secteur du développement agricole du Kenya. Le comté de Nakuru est le premier producteur de fleurs, de pommes de terre, de lait et de légumes au Kenya; cela crée un environnement favorable au développement des start-ups pour FIA. Cependant, la concurrence des entreprises agricoles établies, moyennes et grandes, les expose au risque de fermeture ou d'inhibition de leur capacité à survivre aux turbulences environnementales et à se transformer en moyennes ou grandes entreprises. Les manifestations de l'orientation entrepreneuriale (OE), sous la forme de proactivité, d'innovation et de

prise de risque, entre autres aspects internes, sont considérées comme nécessaires au succès de toute entreprise agroalimentaire, car elles influencent positivement sa croissance et ses performances. L'objectif de cette étude était de comprendre les facteurs influençant les niveaux d'OE chez les fournisseurs d'intrants agricoles dans le comté de Nakuru, au Kenya. Une étude portant sur un échantillon de 137 fournisseurs d'intrants agricoles opérant dans le comté de Nakuru a été réalisée à l'aide d'un questionnaire semi-structuré en face à face. Les données recueillies ont été analysées à l'aide de l'analyse en composantes principales, de la technique des quartiles et du modèle logit ordonné généralisé (LOG). Dans l'ensemble, la variété des produits d'intrants agricoles commercialisés a montré l'influence positive la plus significative sur les niveaux d'EO, suivie par la possession d'un plan d'affaires, le partenariat, les contrats des clients et les facteurs de genre, dans cet ordre de grandeur. D'autre part, les années d'exploitation de l'entreprise agricole et le nombre de propriétaires d'entreprises d'intrants agricoles ont montré une influence négative sur les niveaux d'EO. La liste des facteurs importants classés par ordre de priorité est importante pour informer les agripreneurs, les décideurs et les agences de développement socio-économique lors de la conception de programmes et de stratégies de développement visant à promouvoir l'agripreneuriat au Kenya.

*Mots Cés* : Agripreneur, orientation entrepreneuriale, proactivité, start-ups

## INTRODUCTION

The entrepreneurial orientation (EO) phenomenon is considered to be the driving force which enterprises pursue to achieve sustainable performance through executing entrepreneurial strategies. The EO is an extensively acknowledged instrument for capturing an agri-enterprise proclivity towards agripreneurship and succession (Covin and Wales, 2012; Kollmann and Stöckmann, 2014). The term EO holds numerous connotations and attitudes; however, according to Fadda and Sørensen (2017), there are three dimensions which are the commonly recognised features that define EO enterprises, namely innovation, risk-taking and proactive dimensions. According to Vij and Bedi (2012), EO is a tactical alignment, usually perceived as the magnitude of agri-enterprise growth and performance. It involves recognition of innovative wits, the exhibition of proactive actions while engaging in well-calculated risky projects aiming at gaining defensible competitive and first-mover advantages (Bogatyreva *et al.,* 2017).

The Government of Kenya in 2017 established a Mid-Term Plan III, a development blueprint (2018-2022) to spur the economic growth of country's agricultural sector. The roadmap focused on transforming agriculture, involving setting 1000 micro and small agri-enterprises using a performance-based incentive model, along the agricultural value chain (KNBS, 2020). Nakuru County leads in agricultural activity in Kenya, creating an enabling environment for agri-enterprise start-ups to thrive. Agri-input suppliers, commonly known as *agrovets,* are critical players in the agricultural supply chain, as they convey agricultural inputs close to small-scale rural farmers. They also play vital roles in linking manufacturers of agri-inputs to final users, creating wealth and employment opportunities and supporting crop and livestock enterprises. According to past studies, a large number of small-scale enterprises, including AIS, often fail to survive more than one year of their establishment (Sagwe *et al.*, 2011; Sambo, 2016; Waruguru *et al*., 2017). Such business failure is linked to the inadequacy of the decision-making process and operations in EO, among other factors.

In recognition of the business failure crisis, the Kenyan Government and some non-governmental organisations (NGOs) have extended their entrepreneurial support by establishing fund kitties to spur economic empowerment of the agripreneurs (Waruguru

*et al.,* 2017). The fund kitties mainly target Kenyan youths and women, to empower them into gainful self-employment (Grande *et al.,* 2011; Sambo, 2016; Waruguru *et al.,* 2017). Women and youths form over 70% of Kenya's population and are mainly engaged in small-scale entrepreneurship (Sagwe *et al.,* 2011). Despite the realm of existing knowledge on the significance of EO tactics on enterprise performance, there is paucity of relevant information on agri-enterprises in the country. The objective of this study was to determine factors that influence EO levels among agri-input suppliers in Nakuru County, Kenya.

## MATERIALS AND METHODS

**Study area.** The study was conducted in Nakuru County, located in the rift-valley region of Kenya, at latitude between 0º 13‘ and 1º 10‘ and longitude 35º 28‘ and 35º 36‘.The study focused on three sub-counties, namely Bahati, Nakuru East, and Nakuru West. The sub-counties were purposively selected due to high concentration of licensed agri-input suppliers attracted by enormous agricultural activities in this area. The area has many start-ups and small-scale agri-enterprises established to seize agricultural input supply chain opportunities (KNBS, 2015).

**Sample size.** The sample size was determined using Yamane's (1967) formula (Equation 1) as recommended for the finite population by (Ajay and Micah, 2014), *viz*.:

$$n_0 = \frac{N_0}{1 + N_0 e^2} \quad \text{..... Eq. (1)}$$

Where:

$n_0$ = sample size, $N_0$= population of the items of interest (Agri-input suppliers), and $e$ = error level.

**Sampling procedure.** A list of licensed agri-input suppliers was obtained from the Licensing Office of the Revenue Collection Department of the County Government of Nakuru. A total population of 626 agri-input suppliers (AIS) was licensed to operate in 2018 in the entire county. The study targeted AIS in operation for at least two years (2017 and 2018) in the three sub-counties: Bahati, Nakuru East, and Nakuru West, which accounted for 66% of the AIS licensed in the county at the time.

A simple random sampling technique was used to select a sample of 137 from the total of 416 licensed AIS in the three sub-counties. Each AIS was assigned a number ranging from 1 to 416. A sampling interval of three, which was obtained by dividing the population by the sample, was used. The survey assigned the first AIS number 3 as the starting point for the selection process from the list; then, the survey selected every 3$^{rd}$ AIS until the 137$^{th}$ was selected. The main criterion for choosing an AIS was trading either a single or a combination of the following agri-input categories: crop inputs and/or services, animal health products, and/or extension services.

**Statements used to assess entrepreneurial orientation.** The study adopted 14 statements from previous EO studies that were used to assessed the agri-input enterprises' levels of innovation, proactiveness, and risk-taking inclination (Table 1).

**Data analysis.** Data collected were cleaned and subjected to reliability and validity tests, before principal component analysis (PCA) and regression analysis using STATA software Version 15. Also determined were the description of the significant factors using frequency distribution and percentages.

**Reliability and validity tests.** The 14 EO dimensions statements were first subjected to internal reliability tests to assess their unidimensionality of the EO construct using Cronbach's Alpha (Table 1). A validity test was also conducted to verify the internal

TABLE 1. Statements used to assess the entrepreneurial orientation and their reliability and validity tests results

| Dimension | Statements | Alpha | KMO |
|---|---|---|---|
| Innovation | I have introduced several new or significantly improved agricultural products or services in my agri-input supply enterprise in the past two years. | 0.8252 | 0.7923 |
| | During the last two years, I have introduced new or significantly improved distribution methods for inputs, products, or services in my agri-input enterprise | 0.8234 | 0.8300 |
| | During the last two years, have you introduced new or significantly improved marketing channels and strategies in my agri-input supply marketing operations? | 0.8149 | 0.8463 |
| | During the last two years, I have established new or significantly improved supporting activities for the enterprise operation and processes. | 0.8160 | 0.8220 |
| | I have been trying new ways of doing things and solving problems solutions in my enterprise management practices. | 0.8235 | 0.8033 |
| | I have a corporate culture in my agri-input supply enterprise that adapts to innovative ideas, technologies, methods, and goals. | 0.8213 | 0.8000 |
| Proactiveness | I typically initiate actions that competitors then respond to in my agri-input supply enterprise operations when dealing with competitors. | 0.8215 | 0.7620 |
| | Regularly, being the first to introduce new products, services, techniques, and technology in our industry or market? | 0.8220 | 0.7857 |
| | When dealing with competitors, I always establish a competitive position and vigorously exploit the opportunity to achieve higher performance. | 0.8148 | 0.9093 |
| | I continuously try to anticipate the future needs and wants of my customers and strategies to meet them. | 0.8274 | 0.7585 |
| Risk-taking | I have a strong preference for high-risk initiatives with chances of high returns. | 0.8156 | 0.7884 |
| | Under uncertain situations, I always adopt an aggressive posture that maximises the probability of exploiting potential opportunities. | 0.8255 | 0.8628 |
| | I have in place a risk management process or process | 0.8208 | 0.7723 |
| | I'm not afraid to invest money in risky projects. | 0.8208 | 0.8180 |
| | Overall | 0.8314 | 0.8127 |

Cronbach's alpha threshold > 0.70, KMO > 0.70, sample = 137, and reference years (2017, 2018)

consistency of the 14 manifest variables using the Kaiser-Meyer-Olkin (KMO), a sample adequacy test (Table 1). The 0.7 value was used as tests threshold value scale (Mooi *et al.,* 2018). The reliability and validity tests revealed that all EO dimension statements had Cronbach alpha and KMO values above the threshold value of 0.7 (Table 1). The overall value of 0.8, showed strong reliability of the items in the reflection of the latent EO variable. The validity test results showed that all the EO dimensions statements had KMO values between 0.7-0.9, with an overall mean of 0.8 (Table 1). This presents a commendable level of adequacy of correlation, approving data appropriateness to progress with PCA procedure.

**Principal component analysis.** The main reason intended for using principal component analysis (PCA) in this study was to replicate information arrangement describing EO with fewer components than 14 statements presented in Table 1. Using Kaiser criterion, the PCA process retained 5 components for having an eigen value above 1 (Table 2). Component 1 explains the highest proportion of EO at 32.6%, component 2 (11.4%), component 3 (9.42%), component 4 (8.01%) and component 5 (6.42%) (Table 2). The 5 components retained defined 67.7% of EO and were used for further analysis. The regression score computation method, a post-estimation PCA command, generated scores for each component retained. The total scores predicted were then summated to form the EO overall scores, which were then used to generate EO levels.

**Generation of entrepreneurial orientation levels.** The EO levels were created by grouping the EO overall scores into three levels from lowest to highest and labelled conservative, moderate, and entrepreneurial (Table 3). The EO levels reflected the entrepreneurial position of the agri-input supplier and were assigned ordered 1, 2, and 3 values to represent conservative, moderate, and entrepreneurial oriented, respectively. The study assigned each of the 137 agri-input suppliers an EO level (either 1, 2 or 3) based on the EO total score. The conservative level had the lowest total EO scores computed (-16.3412 to -0.9825), moderate level (-0.8649 to 2.437), and entrepreneurial oriented level had the highest total scores generated (2.3355 to 9.8882) (Table 3). The EO levels generated formed the predicted variable of this study,

TABLE 2. The principal components analysis results of the entrepreneurial orientation statements

| Component | Eigenvalue | Difference | Proportion | Cumulative |
|---|---|---|---|---|
| Comp1 | 5.2160 | 3.3909 | 0.3260 | 0.3260 |
| Comp2 | 1.8251 | 0.3174 | 0.1141 | 0.4401 |
| Comp3 | 1.5076 | 0.2257 | 0.0942 | 0.5343 |
| Comp4 | 1.2819 | 0.2753 | 0.0801 | 0.6144 |
| Comp5 | 1.0066 | 0.1094 | 0.0629 | 0.6773 |
| Comp6 | 0.8972 | 0.0778 | 0.0561 | 0.7334 |
| Comp7 | 0.8194 | 0.1003 | 0.0512 | 0.7846 |
| Comp8 | 0.7191 | 0.0774 | 0.0449 | 0.8296 |
| Comp9 | 0.6417 | 0.1370 | 0.0401 | 0.8697 |
| Comp10 | 0.5055 | 0.0233 | 0.0316 | 0.9013 |
| Comp11 | 0.4822 | 0.0850 | 0.0301 | 0.9314 |
| Comp12 | 0.3972 | 0.0132 | 0.0248 | 0.9562 |
| Comp13 | 0.3841 | 0.0678 | 0.0240 | 0.9802 |
| Comp14 | 0.3163 | 0.3163 | 0.0198 | 1.0000 |

TABLE 3. Generation of entrepreneurial orientation levels for agri-input suppliers in Nakuru county, Kenya

| Levels | EO total score range | | Frequency |
|---|---|---|---|
| | Lower limit | Upper limit | |
| Conservative | -16.3412 | -0.9825 | 46 |
| Moderate | -0.8649 | 2.2437 | 46 |
| Entrepreneurial | 2.3355 | 9.8882 | 45 |

whereas, agripreneurs' socio-economic factors, agri-enterprise characteristics, and institutional factors were explanatory variables.

The study used generalised ordered logit (GOL), also referred to as partial proportional odds (PPO), due to its superiority in accommodating the inadequacies of ordered logit and probit models (Williams, 2016). The GOL model assumes that some coefficients may be the same across the categories, whereas, others may differ, giving substantive insight that other ordered models such as ordered probit/logit models would have missed if used instead.

## RESULTS AND DISCUSSION

**Factors influencing entrepreneurial orientation levels.** The Generalised Ordered Logistic (GOL) model results indicated that seven factors out of fourteen considered significantly influenced either on a single or the two EO ranges created (Table 4). Products offered by the AIS, ownership of business plan, number of partners and contracts showed magnificent positive significant influence on EO levels. Gender differences showed significant influence on the higher level of EO. On the other hand, years of operation showed negative influence on both EO levels and AIS ownership showed negative influence on the lower EO levels (Table 4).

**Products/services offered.** The type of business activities undertaken by the AIS showed a powerful significant influence for EO levels. It was clear that majority of AIS traded at least two types of agri-inputs and/or services, except 9% representing animal feed manufacturers selling only one variety of agricultural products (animal feeds) (Table 5).

The variety of agri-inputs and/or services offered by AIS in Nakuru County showed the most substantial positive significant influence on both EO ranges created at coefficients (1.2355 $P<0.01$ and 1.1230 $P<0.05$) (Table 4). This implies that when the AIS offers more product/service lines, their EO levels increase by 1.2355 and 1.1230 to achieve the highest EO level. This can be explained by the fact dealing with variety of products and/or servicesis an expression of a strong commitment of implementing innovation EO dimension.

Selling varieties of products can also be perceived as a proactive action as it entails providing new or improved products and services that suitably meet consumers' needs and expectations, by exploiting new opportunities in the market. Marketing of diverse products and services can also be regarded as a risk-taking behaviour because agripreneurs are willing to compel considerable resources to various product/ service lines in a competitive environment. Trading varieties of products and services is an expression of higher EO levels as reflected by the innovation, proactiveness and risk-taking EO dimensions' behaviours and practises. This finding is similar to that of Jain and Ali (2013) and Genc *et al.* (2019) who advanced a need for agripreneurs to commit

TABLE 4. Regression outcomes for factors that influence entrepreneurial orientation levels among agri-input suppliers in Nakuru county, Kenya

| Variable | 1st Range of EO levels coef. | 2nd Range of EO levels coef. | 1st P-Value | 2nd P-Value |
|---|---|---|---|---|
| Age | 0.0095 | -0.0010 | 0.693 | 0.971 |
| Gender (Male) | 0.0760 | 1.2963** | 0.882 | 0.020 |
| Education | -0.0148 | 0.1570 | 0.914 | 0.339 |
| Occupation | 0.6161 | -0.3171 | 0.398 | 0.685 |
| Diversification | 0.3428 | 0.5845 | 0.535 | 0.327 |
| Business age | -0.0969* | -0.1494*** | 0.061 | 0.004 |
| Business plan | 1.0817** | 1.2038* | 0.049 | 0.079 |
| Branches | 0.4158 | 0.3217 | 0.442 | 0.706 |
| Ownership | -0.6915** | -0.4136 | 0.023 | 0.282 |
| Selling nature | 0.3728 | 0.3217 | 0.525 | 0.597 |
| Products offered | 1.2355*** | 1.1230** | 0.003 | 0.013 |
| Training | 0.0751 | 0.0472 | 0.439 | 0.518 |
| Contracts | 0.1734*** | 0.1500*** | 0.004 | 0.003 |
| Partnership | 1.2756* | 1.0403* | 0.053 | 0.071 |

* means significance at 10%, ** at 5%, *** at 1%, bold means significant coefficients

TABLE 5. Types of agricultural inputs traded by agri-input suppliers in Nakuru County, Kenya

| Agri-input traded | Frequency | Percent |
|---|---|---|
| Animal feeds only | 13 | 9 |
| Animal health products and services | 2 | 1 |
| Animals health products and crops input | 73 | 53 |
| Animal health products and services, and crop inputs | 49 | 36 |
| Total | 137 | 100 |

to understanding customers' needs and introducing new innovative products/services and marketing processes that proactively satisfy consumers' needs to outdo their competitors.

Most of AIS who traded a combination of animal health products and services; and crop inputs and services were more entrepreneurial oriented than those offered fewer product lines. Therefore, in order to ensure sustainability of AIS operations, agripreneurs must innovatively and proactively offer as many diverse products and services as possible in order to serve all customers' agri-input needs at ago in order to spur agri-input supply growth in Nakuru County, Kenya.

**Owning a business plan.** Ideally, most AIS operating in Nakuru County (69%) possessed a business blue print that guided their agri-enterprise activities and goals to be achieved (Table 6).

Owning an AIS business plan showed a strong positive influence on the EO levels at (1.0817 $P<0.05$ and 1.2013 $P<0.1$) (Table 4). The finding implies that possessing a business plan increases agripreneur's EO levels from

the lower EO range characterised by rare expression of innovative, proactive and risk-taking behaviour and practices to the higher EO range characterised by robust EO dimensions actions and practises by 1.0817 and 1.2013, respectively. Ownership of business plan permits tracking AIS's innovative, proactive, and risk-taking actions and processes, thus increasing their EO levels (Vaznyte and Andries, 2019).

Agripreneurs who fail to develop and utilise business plans exhibit conservative behaviour revealed by diminished EO levels, due to lack of a guiding frame work that can track innovative, proactive, and risk-taking activities that informs business action and direction. This study finding conforms to that of Bsarbieri and Mshenga (2008) and Vaznyte and Andries (2019), who concluded that possessing a business plan improves business financial management efficiency, an indication of higher EO level inclination.

In light of the above observation, agripreneurs' need to be sensitised to develop a business plan if they do not have one or to refine the existing one to ensure that the business dynamics are fully addressed and the right actions are taken in order to guarantee sustained growth and performance of the AIS, whether new or established in Nakuru County.

**Agri-input suppliers' partnership.** Establishment of partnerships with agri-input supply chain actors was not a common institutional arrangement made by majority of AIS in Nakuru County. About 69% of the AISs lacked any form of partnership with any organisation in the agri-input supply chain. Only 26% had between 1 and 5 partners, with only 5% having more than 5 partners (Table 7).

The number of partnerships possessed by an AIS showed a strong positive effect on EO levels (Table 4) explained by coefficients (1.2756 $P<0.1$ and 1.0403 $P<0.1$). The results infer that an additional agri-input supply chain actor into AIS operations enhances higher EO levels by 0.12756 and 1.0403, respectively. Supply chain partners create a conducive environment for the AIS to thrive through sharing important resources such as knowledge acquisition that aids in implement innovative, proactive and risk-taking strategies, hence surpassing competitors who may lack any partnership arrangement (Jiang *et al.,* 2016). This can be explained by the fact that partners enhance market establishment of new products, services, and/or marketing processes through sharing limited resources among the partnering organisations. They also ensure a reliable supply of agri-inputs and

TABLE 6. Distribution of agri-input suppliers' possessing business plan in Nakuru County, Kenya

| Business plan ownership | Frequency | Percent |
|---|---|---|
| Business plan-yes | 94 | 69 |
| Business plan-no | 43 | 31 |

TABLE 7. Number of partnership distribution among agri-input suppliers in Nakuru County, Kenya

| Number of partnership | | Frequency | Percent |
|---|---|---|---|
| Partnership | None | 94 | 69 |
| | 1-5 partnership | 36 | 26 |
| | More than 5 partnership | 7 | 5 |

mitigate risks associated with new products, services, and techniques since any risk can be shared among the partners. Conversely, lack of partnerships decreases the EO levels by the corresponding proportions.

Therefore, AIS must be encouraged to build inter-partner relationship with other firms in order to facilitate higher EO level that guarantees successful development of AIS in Nakuru County, Kenya.

**Agri-input suppliers' contracts.** It was clear that majority of the AISs lacked contractual arrangements with customers in their business operation. This was attested by 45% of AISs who did not have any form of contract with customers to supply them any agri-input or service; 21% had between 1 and 5 contracts; and only 34% had more than 5 contracts (Table 8).

The AIS contracts arrangement with customers, showed a weak positive significant influence on EO levels as explained by coefficients (0.1734 $P<0.01$ and 0.1500 $P<0.01$). This implies that any additional agri-input supply contract undertaken enhanced agripreneurs' EO level from low level to a high one by 0.1734 and 0.1500, respectively. This can be explained by the fact that contractual arrangements ensure sustained working capital of the contracted AIS in the event of agricultural shocks such as drought characterised by minimal agricultural activities and sales. Thus, contract agreements ensure a consistent supply of products and services (Torkkeli *et al.,* 2019). When AISs' are entrepreneurial oriented, they engage in contracts as innovative marketing strategies that ensure continuous cash flows even when competitors who lack contracts struggle to meet their operational costs.

Participation in contract arrangements guarantees AIS survival and growth into an established medium or large scale AIS due to assurance of markets of their products/ services. In contrast, lack of contract engagements hinders AIS from reaping contractual benefits associated with low EO levels proclivity (Thongsri and Chang, 2019; Torkkeli *et al.,* 2019). Higher EO levels emphasise the importance of institutional networks such as contracts in assisting agri-enterprises to acquire essential resources such as entrepreneurial skills and information. Possessing business contracts,is therefore, imperative for agri-enterprises' higher EO level proclivity resulting into higher survival rate and performance.The practice of ownership of business contracts should be prioritised by agripreneurs running AIS, by way of training about the benefits of business contracts in their business operations. Contracts necessitate sharing of risky outcomes associated with agricultural shocks, hence, enhancing AISs' survival and sustainable growth in Nakuru County, Kenya.

**Gender differences.** Table 9 presents the gender distribution of AIS operators' in Nakuru County, Kenya. About 57% of AISs were operated by men and 43% by females; over 50% of AIS operators were youths (Table 9).

Gender differences as a possible characteristic, revealed a strong significant influence on the higher range of EO level (Table 4). It showed a significant positive influence on the higher range of the EO levels

TABLE 8. Number of contracts distribution among agri-input suppliers in Nakuru County, Kenya

| Number of contracts | | Frequency | Percent |
|---|---|---|---|
| Contracts | None | 62 | 45 |
| | 1-5 contracts | 29 | 21 |
| | More than 5 contracts | 46 | 34 |

(1.2963 P<0.05), but an insignificant influence on the lower range of EO levels (Table 4). There was an increase of 1.2963 of EO levels in favour of the AIS run by male operators. This might be due to the fact that male agripreneurs are more extrinsically; motivated to become entrepreneurial oriented whereas females are intrinsically motivated to become EO (Pejiæ Bach *et al.,* 2016). The results revealed significant difference between male and female AIS operators in achieving higher EO levels. The variance can be linked to the Kenyan society's perception of entrepreneurship in the masculine context.

This perspective of entrepreneurship being masculine, negatively affect AIS female operators' in their efforts to achieve higher EO levels and business success, as they perceive their male counter parts as key decision makers and being more entrepreneurial oriented. Decision-making plays an essential role in determining the higher EO levels among AIS in Nakuru County; hence AISs' whose daily business operation decisions are by male tend to be more entrepreneurial oriented than those operated by female counter parts. This was achieved after selecting men compared to the female during GOL model analysis (Table 4). The findings of this survey support past study's findings on the influence of gender differences on EO (Pejiæ Bach *et al.,* 2016). It is, therefore recommended to incorporate the gender aspect when running the AIS, or planning to recruit employees in order to ensure entrepreneurial power bestowed on either the gender orientation is nurtured to address gender equality and promote prosperity of the AIS business in Nakuru County, Kenya.

**Agri-input supplier's years of operation.** The majority of AISs' in Nakuru County were new businesses (36%), having been in existence less than 5 years (Table 10). Only 35% of AIS had been operating between 5-10 years, and 29% for more than 10 years.

The significant negative influence of years of AIS was revealed by coefficients (-0.0969 P<0.1 and -0.1494 P<0.05) in both lower and

TABLE 9. Distribution of agri-input supply operators by gender and age in Nakuru County, Kenya

| Age categories | **Frequency (%)** | |
|---|---|---|
| | Male=77 (57%) | Female=60 (43%) |
| Below 35 years (youths) | 47 | 55 |
| 35-60 years | 43 | 45 |
| Above 60 years | 10 | 0 |

TABLE 10. Distribution of agri-input suppliers' years of operation in Nakuru County, Kenya

| Years of operation | Frequency | Percent |
|---|---|---|
| Less than 5 years | 49 | 36 |
| Between 5-10 Years | 48 | 35 |
| Between 11-20 Years | 32 | 23 |
| Over 20 Years | 8 | 6 |
| Total | 137 | 100 |

higher EO levels. This implies that as AIS grows older by 1 year, its levels of EO declines from being entrepreneurial oriented to being conservative by 0.0969, and 0.1494, respectively. This situation can be explained by the fact that as AIS grows over time reaching a maturity stage, its EO characteristics decline because most of its new ideas generated during the early stages, will have been implemented, hence, operating on a status quo which lacks innovation, proactiveness, and risk-taking behaviour; hence diminishing EO levels (Table 4). On the other hand, start-ups and new AISs lack sufficient tangible resources such as capital. Therefore, they must engage in EO behaviours such as innovation, proactiveness, or risk-taking to survive the competitive environment ruled by already established AISs. However, as they grow and become fully established, their levels of EO activities decline (Table 4). These findings were similar to those of Anderson and Eshima (2013), that young firms possess intangible resource advantages that help them exhibit the most robust levels of growth at their early stages than their old foils, revealing their higher levels of EO. Those AIS operating in Nakuru County, must engage in more entrepreneurial behaviours and actions during their early years of establishment, in order to ensure sustained growth to become an established AIS in Nakuru County.

**Agri-input supplier's ownership status.** The majority (68%) of AIS in Nakuru County were solely owned and about 25% were co-owned by two partners, and only 8% were co-owned by more than two co-owners (Table 11).

The AIS ownership showed a significant negative influence (-0.6915 $P<0.05$) on the lower range of EO levels generated (Table 4). This implies that adding a new agripreneur into the AIS co-ownership decreases their chances of realising higher EO levels by 0.6915. Conversely, when AIS already exhibit higher EO level behaviours, additional partners do not influence their EO behaviour. This can be explained by the fact that the new partners may have EO inclination different from the existing ones (Mwai *et al.,* 2018). This may hinder the agri-enterprise need for robust decision-making on the several EO activities that need speedy actions to be undertaken in order to achieve the desired higher EO levels (Dess *et al.,* 2011). This observation is similar to those of Dess *et al.* (2011) and Mwai *et al.* (2018) whose studies led to the conclusion that firm ownership affects the degree of agripreneur's EO disposition. Therefore, start-ups and small AIS operating in Nakuru County ought to strategise on how to possess a business blue print, increase their product lines, contracts and partnership, as well as declining to add any additional co-owner to their agri-enterprise ownership if their main goal is to achieve higher EO levels associated with business success and performance.

TABLE 11. Agri-input suppliers' ownership distribution in Nakuru County, Kenya.

| Ownership | Frequency | Percent |
|---|---|---|
| Sole ownership | 93 | 68 |
| Owned by 2 partners | 34 | 25 |
| Owned by more than 2 partners | 10 | 8 |
| Total | 137 | 100 |

## CONCLUSION

The study identified seven critical internal factors that significantly influence EO levels among agri-input suppliers operating in Nakuru county, Kenya. These included product offered, business plan, partnership, contract, gender, ownership and years of operation. Two variables; namely gender and ownership showed significant influence on a single range of EO levels; where gender positively affected the upper EO levels while agri-input suppliers' ownership negatively influenced the lower EO levels. In contrast, two factors; business age

and ownership displayed a negative influence on the entrepreneurial orientation development, implying an increase in these factors declined entrepreneurial orientation development. Knowledge about these factors is useful to inform the designing of development programmes and strategies aimed at promoting genuine AIS and agripreneurship in Kenya.

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