THE EFFECT OF INNOVATIVENESS AND INTERNAL Locus OF Control ON AGRO-ENTREPRENEURIAL INTENTION: A MEDIATING ROLE OF INNOVATIVENESS

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ABSTRACT

The purpose of this study is to evaluate the effects of innovativeness and internal locus of control on agro-entrepreneurial intention as well as the mediating role of innovativeness on the relationship between internal locus of control and agro-entrepreneurial intention among secondary school students in Nigerian. Using structural equation model on 200 secondary school students in Sokoto state, we found that the agro-entrepreneurial aspirations of secondary school students are significantly related to one’s innovativeness, while internal locus of control has no significant effect. Also, internal locus of control significantly influences one’s innovativeness. Finally, innovativeness has a full mediating effect on the relationship between internal locus of control and agro-entrepreneurial intention. Thus, the Nigerian government and other government entities are reminded by this study of the importance of continuing to develop training programs and activities to support psychological traits in young agro-entrepreneurs.

Keywords: Innovativeness, Internal Locus of Control, Agro-Entrepreneurship, Nigeria.
INTRODUCTION

Entrepreneurship drives every country's economic success as well as reduces poverty and social vices (Arkorful & Hilton, 2022; Ezeh, Nkamnebe, & Omodafe, 2020). Thus Pulka et al., (2021) opined that entrepreneurs are the backbone of a country's economy since their enterprises help in increasing gross domestic product (GDP). However, the National Bureau of Statistics (NBS) (2020), found that unemployment rate in Nigeria is on a steady increase. Therefore, Agro-enterprises must be established in agriculture-based developing countries, like Nigeria to stimulate economic growth and provide employment and income generation for aspiring entrepreneurs (Ikuemonisan, Mafimisebi, Ajibefun, Akinbola, & Oladoyin, 2022). According to various studies, however, Nigerian government is re-diversify towards agriculture in order to improve GDP and reduce unemployment (Uzonwanne, 2015).

Thus, entrepreneurship is receiving more attention among the academies, government and operators (Eniola & Osigwe, 2021; Ezeh et al., 2020). It is recorded that variety of entrepreneurship initiatives can raise young people's knowledge of entrepreneurship as a career option and foster positive attitudes toward it (Morris, Henley, & Dowell, 2017). Therefore, to provide equitable access to entrepreneurship, Nigerian government has made it compulsory for all students, including secondary school students, to complete and pass an entrepreneurial-related course(s)/subject(s) before graduation (Oladejo & Mafimisebi, 2022). Moreover, scholars found that certain skills aid entrepreneurial intention and success (Obschonka, Hakkarainen, Lonka, & Salmela-Aro, 2017). Scholars have shown that entrepreneurs have distinct set of psychological attributes that distinguishes them from non-entrepreneurs (McClelland, 1976). Entrepreneurs are desiring to have complete control over their firms as well as enjoy the innovativeness that come with business start-up (Alshebami & Seraj, 2022).

Moreover, an entrepreneur's proclivity for taking risks, internal locus of control, self-confidence, need for accomplishment, innovativeness, and tolerance for uncertainty are examples of attributes that influence entrepreneurial intention (Dehghanzadeh et al., 2016; Koh, 2016; Nasip, Amirul, Sondoh Jr, & Tanakinjal, 2017; Popescu, Bostan, Robu, Maxim, & Diaconu (Maxim), 2016). Specifically, there is evidence that internal locus of control and innovativeness can favorably influence entrepreneurial success and tendencies (Alshebami & Seraj, 2022; Arkorful & Hilton, 2022). The locus of control can be internal (controlling one's own destiny without relying on fate or chance) or external (having little influence over one's future and relying largely on fate or chance) (Rotter, 1966). People with an internal locus of control stick with tasks and accept responsibility for their actions, whereas those with an external locus of control are less likely to do so because they believe that external factors such as fate, luck, and influential people are at work in any situation where goals must be met (Alshebami & Seraj, 2022; Ndofirepi, 2020).

Thus, people with an internal control center are more likely to become agro-entrepreneurs. More so, innovativeness has been championed as the major traits of a successful entrepreneur (Al-Mamary & Alshallaqi, 2022; Hult, Hurley, & Knight, 2004; Wathanakom, Khlaisang, & Songkram, 2020). The ability to innovate is one of the factors that motivates business start-up and business success (Hurley & Hult, 1998; Porter, 2011; Porter, 1998; Schumpeter & Backhaus, 2003). Therefore, mangers and entrepreneurs tackle business problems and hurdles by being creative, and their solutions are the foundation of the company's long-term survival and profitability. Consequently, scholars have recently begun to place a greater emphasis on the
concept of agricultural entrepreneurship (Che Nawi et al., 2022; Ezeh & Juniadu, 2019; Fitz-Koch, Nordqvist, Carter, & Hunter, 2018).

Notwithstanding, the importance of innovativeness and internal locus of control on entrepreneurial intention, few scholars or none was able to link those variable on agro-entrepreneurial intention. Thus, we seek to identify the effect of innovativeness and internal locus of control on agro-entrepreneurial intention, as well as the mediating effect of innovativeness on the relationship between internal locus of control and entrepreneurial intention (see fig 1). The key components of this article are divided as follows. The next section was devoted to literature review, followed by research methodology. The fourth portion presents the findings, while the fifth section examines and draws inferences from the findings.

LITERATURE REVIEW

Entrepreneurs have distinct set of psychological attributes that distinguishes them from non-entrepreneurs (McClelland, 1976). Entrepreneurs are desiring to have complete control over their firms and like the innovativeness that come with business start-up (Alshebami & Seraj, 2022). Intention is the best predictor of behaviour (Ajzen, 1991). Arguably, the first stage in the entrepreneurial process is entrepreneurial intention, which is the willingness and desire to establish and operate a business. A variety of elements, including institutional or environmental, as well as human traits influence agro-entrepreneurial intention (Akosah-Twumasi, Emeto, Lindsay, Tsey, & Malau-Aduli, 2018; Bruton, Ahlstrom, & Obloj, 2008; Haggblade et al., 2015). Specifically, personal traits such as internal locus of control, demand for accomplishment, innovativeness, and risk-taking proclivity influence an individual's intention to participate in entrepreneurship (Bhatti, Mat Saat, Juhari, & Alshagawi, 2021; Nasip et al., 2017; Ndofirepi, 2020). Within the evidence in the literature, personal qualities like these have variable and even contradicting outcomes in different situations. Thus, it is critical to understand why some people are inspired to start their own firm while others are not. Locus of control and innovativeness comprises both personality and environmental characteristics (Arkorful & Hilton, 2022; Hurley & Hult, 1998), therefore it is appropriate to explicitly explore their link with agro-entrepreneurial intention, as described in fig 1.

Hypotheses Development

Internal Locus of Control (ILC): It examines people's beliefs of the extent to which external influences or their own actions influence their success (Rotter, 1966). Thus, it describes the extent to which a person feels that success is a result of their own abilities rather than luck or the efforts of others. This research focuses on the internal locus of control in particular. Scholars, for example, have established a link between entrepreneurial intention and internal locus of control (Alshebami & Seraj, 2022; Bernardus et al., 2020; Ndofirepi, 2020; Vodâ & Florea, 2019). Internal locus of control is regarded to have a substantial impact on the creation of entrepreneurial ambition. Furthermore, we believe that one’s internal locus of control will determine one’s innovativeness. Believing in oneself increases one’s innovativeness. Thus we hypothesize:

H1: Internal locus of control influence agro-entrepreneurial intention.
H1a: Internal locus of control influence innovativeness.

Innovativeness: Being innovative means being outstanding, wonderful, or creative (Mueller & Thomas, 2001). New enterprises emerge as a result of innovation, which entail selling distinctive products and/or employ cutting-edge business or marketing tactics (Koh, 1996).
Thus, innovativeness results in the creation of enterprises that will boost economic development and growth (Alshebami & Seraj, 2022). Furthermore, entrepreneurship and innovativeness are inextricably linked (Bhatti et al., 2021; Nasip et al., 2017). Therefore we hypothesize:

H2: Innovativeness influence agro-entrepreneurial intention.

The Mediating Effect of Innovativeness on relationship between Internal Locus of Control and Entrepreneurial Intention: Numerous authors emphasized the importance of innovation as a strategy in the entrepreneurial process (Drucker, 2014; Schumpeter & Backhaus, 2003). Being innovative is a hallmark of entrepreneurial conduct (Drucker, 2014). Innovativeness has regularly been shown to have a significant influence on business performance (Frese, 2009) and entrepreneurial intention (Bhatti et al., 2021; Koe, 2016; Nasip et al., 2017). Furthermore, innovativeness mediates the relationships among many factors and entrepreneurship (Adzovie & Jibril, 2022; Capelleras, Domi, & Belletti, 2021; Domi, Capelleras, & Musabelliu, 2020; Ng, Kee, & Ramayah, 2019; Utsch & Rauch, 2000). For instance, process innovation moderates the relationship between technical competence and financial performance, while product innovation moderates the relationship between entrepreneurial competence and financial performance, finally behavioral innovation moderates the relationship between transformational leadership (TFL) and financial performance (Ng et al., 2019); Also innovativeness mediate the link between training and performance (Capelleras et al., 2021); link between Covid-19 outbreak and the adoption of an e-learning approach (Adzovie & Jibril, 2022); link between achievement orientation and venture performance (Utsch & Rauch, 2000). Surprisingly, within the accessed literature no study has investigated the mediating effect of innovativeness on the relationship between internal locus of control and entrepreneurial intention. Thus we hypothesized;

H3: innovativeness mediates the relationship between internal locus of control and entrepreneurial intention.

Figure 1: Conceptual framework

METHODOLOGY

Methodology of Research
A quantitative research approach was utilized in this study to evaluate how innovativeness and internal locus of control influence agro-entrepreneurial intention, as well as the mediating effect of innovativeness on the relationship between locus of control and entrepreneurial intention in Nigeria. This was done by drawing 200 samples for the study from four public secondary schools in Sokoto State, Nigeria. The pupils were given a self-administered questionnaire. In addition, we maintained respondents' privacy and followed stringent ethical guidelines when
conducting our research. By completing a consent form, participants agreed to take part in the study. Research assistants delivered surveys and collected completed questionnaires during class. Thus, there was 100% return due the process used.

**Questionnaire Development**

The questionnaire comprises agro-entrepreneurship purpose questions as well as factors linked to psychological qualities (locus of control and innovativeness). Both the independent and dependent variables were assessed on a Likert scale of 1 (strongly disagree) to 5 (strongly agree) (strongly agree). These researchers works were employed to create measures for assessing a person's psychological qualities and entrepreneurial intention (Koe, 2016; Koh, 1996; Popescu et al., 2016).

**DATA ANALYSIS AND FINDINGS**

**Factor Exploration Analysis**

Exploratory factor analysis, testing for normality, and sample adequacy were performed after adhering to the instrument's norms and constraints. Sphericity was also determined using Bartlett's test and Kaiser-Meyer-Olkin (KMO). Furthermore, maximum likelihood analysis based on Promax rotation was used for exploratory factor analysis. Thus, the indicator loading value should be at least 0.50 (Hair, Babin, Anderson, & Black, 2019; Hair, Gabriel, & Patel, 2014). Table I shows the KMO test, which analyzes sample fitness. With a score of 0.887 percent, the outcome is good, and the results of the Bartlett test of sphericity demonstrate that the variables have high correlations ($\chi^2 = 4141.909$, p-value = 0.000) (Hair et al., 2019). Furthermore, as judged by communalities, there is no noticeable change in the amount of variation that each variable contributes to the variance of the other variables.

| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | .887 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 4141.909 |
| | Df | 136 |
| | Sig. | 0.000 |

**Psychometric Properties of the Scale**

The instrument's validity and reliability were evaluated using confirmatory factor analysis (CFA). The degree to which one thought indicators relate to another is referred to as "convergent validity" (Hair et al., 2019). Convergent validity was tested using the extracted average variance (AVE). An AVE score of at least 50% is recommended for convergent validity (Bagozzi & Yi, 2012). Table 2 displays the composite reliability, AVE, Cronbach's alpha, and indicator factor loadings as a consequence. All of the findings in Table 2 are within the prescribed bounds, they have good validity and reliability (Collier, 2020; Fornell & Larcker, 1981; George & Mallery, 2019). Furthermore, because the original models did not meet up the model fit criteria; model enhancement was performed utilizing modification indices (Collier, 2020). Few items with high modification index were eliminated. Following model enhancement, the following model indices show that the model's fit requirements were met: The CFI (Comparative Fit Index) is 0.991, the IFI (Incremental Fit Index) is 0.991, the Tucker-Lewis index (TLI) is 0.989, and the RMSEA (Root Mean Square Error of Approximation) is 0.044 (Collier, 2020; Hu & Bentler, 1999). Thus, Table 2 shows the CFA findings, and Figure 2 shows the computation of a
measurement model with three latent components. The structural model was also tested for discriminant validity. The discriminant validity of a notion illustrates how it varies from others (Hair et al., 2014). The current study meets the Fornell-Larcker criterion since the square roots of the AVEs are bigger than the shared variance of the model's components, see (Table 3) (Bagozzi & Yi, 2012; Fornell & Larcker, 1981).

Table 2  
*Internal Consistency*

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Estimate</th>
<th>CR</th>
<th>AVE</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOC1</td>
<td>0.971</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC6</td>
<td>0.969</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC4</td>
<td>0.942</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC3</td>
<td>0.945</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOC2</td>
<td>0.851</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNOV2</td>
<td>0.936</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNOV3</td>
<td>0.937</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNOV4</td>
<td>0.932</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEI3</td>
<td>0.868</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEI4</td>
<td>0.842</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEI2</td>
<td>0.817</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEI1</td>
<td>0.739</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEI5</td>
<td>0.717</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note = ILOC- Internal Locus of Control, INNOV- Innovativeness, AEI- Agro-entrepreneurial Intention

Figure 2: Measurement Model
Table 3

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>MaxR(H)</th>
<th>ILOC</th>
<th>INNOV</th>
<th>AEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILOC</td>
<td>0.973</td>
<td>0.877</td>
<td>0.126</td>
<td>0.981</td>
<td>0.937</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INNOV</td>
<td>0.954</td>
<td>0.875</td>
<td>0.126</td>
<td>0.955</td>
<td>0.355</td>
<td>0.935</td>
<td></td>
</tr>
<tr>
<td>AEI</td>
<td>0.898</td>
<td>0.638</td>
<td>0.022</td>
<td>0.907</td>
<td>0.015</td>
<td>0.149</td>
<td>0.799</td>
</tr>
</tbody>
</table>

*Note = AVE- ILOC- Internal Locus of Control, INNOV- Innovativeness, AEI- Agro-entrepreneurial Intention*

**Structural Equations Model Path Analysis (SEM)**

SEM is used to investigate the link between independent factors (Innovativeness and internal locus of control) and the dependent variable (agro-entrepreneurial intentions). According to Table 4 and Figure 3, internal locus of control (β = 0.355, p < 0.000) influence individual innovativeness. Furthermore, innovativeness (β = 0.164, p < 0.050) influence agro-entrepreneurial intention while internal locus of control does not influence agro-entrepreneurial intention. In other words, the more internal locus of control the secondary school pupils are, the more likely they are innovative, thus the more they want to participate in agro-entrepreneurship.

Table 4

<table>
<thead>
<tr>
<th>Path Coefficient</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovativeness</td>
<td>---</td>
<td>0.355</td>
<td>0.067</td>
<td>5.172***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Agro-entrepreneurial Intention</td>
<td>---</td>
<td>0.164</td>
<td>0.069</td>
<td>2.040.041</td>
<td>Accepted</td>
</tr>
<tr>
<td>Agro-entrepreneurial Intention</td>
<td>---</td>
<td>-0.043</td>
<td>0.066</td>
<td>-0.5450.586</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

*Note = AVE- ILOC- Internal Locus of Control, INNOV- Innovativeness, AEI- Agro-entrepreneurial Intention*

Figure 3: Path Coefficient

**Mediating Effect of Innovation on the relationship between Internal Locus of Control and Agro-Entrepreneurial Intention**

A mediation analysis was afterward conducted using a bootstrap sample of 5,000. Table 5 highlights the outcome of this analysis, indicating the presence of full mediation. In other words, this study assessed the mediating role of innovativeness on the relationship between internal locus of control on entrepreneurial intention. The result revealed a significant indirect effect of internal locus of control on agro-entrepreneurial intention (β = 0.49, p < 0.05). Furthermore, the direct effect of internal locus of control on agro-entrepreneurial intention in the presence of mediator was not significant (β = -0.043, p > 0.05) (see table 4). Therefore, innovativeness fully
mediates the relationship between internal locus of control and agro-entrepreneurial intention (see table 5 and figure 3).

Table 5
Test for Mediation Using a Bootstrap Analysis with a 95% Confidence Interval

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Confidence Interval</th>
<th>P-value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILOC -- INNOV</td>
<td>0.043</td>
<td>0.49</td>
<td>0.009 -- 0.106</td>
<td>0.018</td>
<td>Full mediation</td>
</tr>
</tbody>
</table>

Note: Unstandardized coefficients reported. Values in parentheses are t-values. Bootstrap sample = 5,000 with replacement.

CONCLUSION AND RECOMMENDATIONS
This study looked at how agro-entrepreneurial intention among Nigerian secondary school students are influenced by internal locus of control and innovativeness, as well as the mediating role of innovativeness on the relationship between internal locus of control and agro-entrepreneurial intention. We found that the agro-entrepreneurial aspirations of secondary school students in Nigeria are significantly related to one’s innovativeness, while internal locus of control has no significant effect. Also, internal locus of control significantly influences one’s innovativeness. Finally, innovativeness has a full mediating effect on the relationship between internal locus of control and agro-entrepreneurial intention.

Agro-entrepreneurial intention of secondary school students are significantly related to one’s innovativeness. This study is in line with (Bhatti et al., 2021; Nasip et al., 2017) who found that innovativeness influence entrepreneurial intention. While internal locus of control has no significant effect on agro-entrepreneurial intention, which contradict other scholars (Alshebami & Seraj, 2022; Bernardus et al., 2020; Ndofirepi, 2020; Vodâ & Florea, 2019) who found that internal locus of control influence entrepreneurial intention. Also, internal locus of control influences one’s innovativeness. In other words, the more one believe in oneself, the more one will be innovative. Finally, innovativeness mediate the relationship between internal locus of control and entrepreneurial intention: Numerous authors emphasized that being innovative is a hallmark of entrepreneurial conduct (Drucker, 2014). Thus, this study is line with (Capelleras et al., 2021) who found that innovativeness mediate training and performance.

The study's conclusions are useful to a wide range of Nigerian stakeholders. The Nigerian government and other government entities are reminded by this study of the importance of continuing to develop training programs and activities to support psychological traits in young agro-entrepreneurs. Thankfully, previous study indicates that these entrepreneurial traits may be taught (Ezeh et al 2020). Agro-entrepreneurship needs assistance from a thriving entrepreneurial ecosystem with the right institutions in order to promote Nigerian society and culture. By addressing obstacles and issues for nascent agro-entrepreneurs, the Nigerian government may promote agro-entrepreneurship as well. The need of incorporating personal characteristic development in relation to agro-entrepreneurship into school curricula should be highlighted. The entrepreneurial skills that will inspire young people to seek a career in agriculture may be developed and maintained with the help of these educational institutions. In order to do this, efforts should be divided into two main areas: first, presenting agro-business
leaders as role models, emphasizing the benefits of agro-entrepreneurship, and creating an environment that supports it; and second, enhancing agro-entrepreneurial skills.

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Reference


