

INNOVATIVENESS AND ENTREPRENEURIAL INTENTIONS AMONG UNDERGRADUATE STUDENTS IN KADUNA STATE UNIVERSITY: MODERATING EFFECTS OF PERCEIVED ACCESS TO FINANCE

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Abstract

The study examined the factors influencing entrepreneurial intention among final-year undergraduate students in the Faculty of Management Science in Kaduna State University. Using a cross-sectional survey research design, data were collected from a sample of 226 students selected through simple random sampling based on Krejcie and Morgan's (1970) sampling table. Structural equation modeling (SEM) with Partial Least Squares (PLS) using SmartPLS was employed for data analysis. The survey instrument featured a five-point Likert scale. Before analysis, assumptions of normality and multicollinearity were verified. Following Hair et al. (2017) two-stage assessment process, both the measurement and structural models were validated and evaluated. The findings underscore the significant role of innovativeness in enhancing entrepreneurial intention, with perceived access to finance also positively influencing entrepreneurial intention, though to a lesser extent. However, the interaction between perceived access to finance and innovativeness does not significantly impact entrepreneurial intention. These results highlight the importance of policies and educational programs that promote innovation and improved access to financial resources to foster entrepreneurial intentions among students.

Keywords: Entrepreneurial intention, innovativeness, perceived access to finance

Introduction

Research on entrepreneurial intention (EI) is receiving an increasing attention in recent years and is becoming a rapidly progressing area of study (Swarupa & Goyal, 2020). This is because EI is a reliable and important predictor of entrepreneurial behavior (Nabi, Linan, Fayolle & Krueger, 2017). In particular, the intention of undergraduate students to choose a career path in entrepreneurship has become an important area of concern among researchers and policy makers across the globe. This is given the fact that entrepreneurship and entrepreneurs are widely recognized as a pillar of every nation in achieving social, economic, technological and organizational development (Bosma, Content, Sanders, & Stam, 2018). Entrepreneurship and entrepreneurs are regarded as catalysts for economic development due to the wide range of economic benefits provided by them in terms of job creation, introducing innovative products and/services, facilitating technology transfer, increasing competitiveness and enabling social environment (Al-Jubari, 2019; Bosma, Content, Sanders, & Stam, 2018). For example, through the development of entrepreneurship, the United State of America (USA) became economically advanced into one of the most powerful economies in the world (Bruton & Ahlstrom, 2003) and China became the fastest growing economy across the globe ay a time (Zhou & Zu, 2012). Developing economies like Nigeria also benefit from entrepreneurship through innovativeness, creativity and job creation (Nigeria Entrepreneurship Report, 2022)

The benefits derived from engaging in entrepreneurship encouraged the government and policy makers in various nations to initiate policies that are geared towards developing entrepreneurial potential among the teeming young graduates. As a result, these countries have recorded different levels of EI. For instance, Global Entrepreneurship Monitor (GEM) report of 2014 which is the last GEM report from 2014 to date reported that, only 40% of students in Nigeria who believed they have the relevant skills and ability to identify business opportunities intend to start a new venture within the next 3 years (Singer, Amoros & Arreola, 2014; Mohammed, 2020). This is low especially when considering the level of EI in other countries like Uganda with the highest level of EI of about 79%, followed by Botswana with 72%, Malawi and Angola with 70%, Ghana with 60%, Zambia with 55%, Namibia 45%, Ethiopia with 24% and the South Africa with the lowest EI of 12% (Singer, Amoros & Arreola, 2014).

Despite the fact that entrepreneurship is viewed as a catalyst for economic development, it is important to understand however, that entrepreneurship activities are influenced by intentions because Krueger, Reilly and Carsrud, (2019) argue that entrepreneurial activity can be predicted more accurately by studying intention. To engage in such act, an individual need to have the intention to do so as Krueger, Reilly and Carsrud, (2000) argued that intention is said to be the single best predictor of behavior including entrepreneurship. Therefore, understanding the antecedents of intention increases the understanding of intended behavior (Krueger, Reilly & Carsrud, 2000). Similarly, understanding the factors that account for developing EI and subsequent venture creation is critical in clarifying entrepreneurial behavior (Shane & Venkataraman, 2000). Hence, choosing a career in entrepreneurship depends on the EI of potential entrepreneurs which could be determined by many factors including innovativeness (Bolton & Lane, 2012).

Researchers have revealed positive association between innovativeness and EI (Ayeasha, Mobarak & Anwarul, 2022; Tommy, Efrata, Wirawan, Radianto & Junko, 2021; Syed, Butler, Smith & Cao, 2020). It is logical therefore to presume that, the more one is innovative, the more the intention to start a business would be intensified and vice versa. On the contrary, other studies have found no significant direct effect or weak relationship between innovativeness and EI (Abdullahi, Andow, Ango, and Dabo, 2023; Jimoh, Umar, Mohammed, & Karwai, 2021; Ajit Dahal, 2020). As a result, there is a need to increase our understanding on the direct and indirect effect of innovativeness on students' EI.

Given the contradictory findings in the literature on the effect of innovativeness on EI, and whether perceived access to finance (PAF) moderate the relationship between them is an under-researched area particularly among undergraduate students in Kaduna State University (KASU). It is expected that the ability to display innovativeness for enhanced EI is contingent on the PAF of the intending student. Hence, this study attempts to bridge this gap by investigating the moderating effect of PAF on the relationship between innovativeness and students' EI.

Literature Review

Entrepreneurial Intention

Intentions involves an individual's stimulus to make an effort to act upon a conscious plan or decisions (Liu, Lin, Zhao & Zhao, 2019). Mba (2018) explained that, intention is a predictor to measure the extent to which an individual desire to involve in new venture creation. Consequently, EI can be expressed as a desire or determination of an individual to start-up a new business venture to exploit the opportunities and risks of the business through learning entrepreneurship. EI expresses an individual's interest and inclination to involve into entrepreneurial activities towards creating a new

venture (Salami, 2019). EI also refers to a conscious awareness and conviction by an individual that they intend to establish a new business venture and plan to do so (Nabi, 2017).

Innovativeness

Innovativeness is an essential requirement in entrepreneurship (Ozaralli & Rivenburgh, 2016) and is viewed as the ability to come up with solutions in providing value to users (Baron & Hmieleski, 2018). Innovativeness refers to the propensity to avoid traditional practices and embrace new methods and technologies that use resources more efficiently (Dess *et al.* 2011). Innovativeness is expressed as an affection to challenge the status quo and assist new ideas in technology, new product advancement and internal processes (Baker & Sinkula, 2009). Innovativeness makes an individual or organization to search for creative solutions to the problems (Rauch, Wiklund, Lumpkin, & Frese, 2009). Furthermore, innovation is the most common entity of entrepreneurial activity making innovativeness as one of the most important components of individual entrepreneurial orientation (IEO) (Mustafa, Gavin & Hughes, 2018). Vora and Polley (2012) describe innovativeness as a range of methods to develop or adopt new activities, services or products. Innovativeness is perceived as one of the important variable in depicting entrepreneurs. It derives an entrepreneur to create new thing that has never been there or create something completely different. Entrepreneurs are pioneers in business, innovators, risk takers who have a vision ahead and have excellence in achievement in the field of business.

Perceived Access to Finance

Perceived access to finance is seen as an assessment of the individual's ability to effectively find, access and utilize capital (Pham, 2019). According to Samar, Mohammed and Safiah (2019) perceived access to finance can be referred to as the ease with which individuals can access and utilize financial resources needed to support and progress the entrepreneurial career. Therefore, the success of a venture depends on the proprietors' ability to generate internal and external sources of finance (Aminu & Shariff, 2014; Demir & Caglayan, 2012). Hence, an individual's belief that it will be difficult or easy for them to obtain start-up capital will determine whether or not they will choose a career in entrepreneurship.

Innovativeness and Entrepreneurial Intention

Innovativeness is one of the pivotal entrepreneurial prerequisite cited in the literature (Koh, 1996). As argued by Covin and Miles (1999) that an entrepreneur is an innovator pursuing market requirements by discovering unique processes, products and services. Hence, extant literature revealed that individuals who are entrepreneurs are more inclined to be innovative than those who are not entrepreneurs (Koh, 1996). Consequently, there exist a number scholarly work that examines the relationship between innovativeness and EI. For example, Ayeasha, Mobarak and Islam (2022) examined the impact of innovativeness and creativity on digital entrepreneurship in Bangladesh. A survey questionnaire was administered on a sample of 150 students from the public universities. Using statistical package for the social sciences (SPSS) version 26.0, the result from the analysis revealed that, innovativeness and creativity have a significant and positive impact on students' intentions to engage in an online entrepreneurship.

Tommy, Efrata, Wirawan, Radianto and Junko (2021) explored the relationship between innovativeness as a component of IEO, entrepreneurship education and EI. The model was developed and tested on 231 Management and Business students who have completed an entrepreneurship education course in the university. Using PLS-SEM model for analysis, the findings revealed the capacity of innovativeness to increase EI. Sumit, Zahoor and Amit (2019) determined the relationship between innovativeness and EI among students of higher learning institutions in India. The study was

based on a sample of 393 students studying in 35 different universities and institutions in the North, South and Western regions of India. Using hierarchical regression and ANOVA for data analysis, the results demonstrate a positive and significant impact of innovativeness on EI. In Nigeria, Sani, Muhammad, and Babangida (2019) studied the relevance of innovativeness to students' EI in Federal University Dutse (FUD). The study adopts a cross-sectional survey research design on 282 final-year students, and data was analyzed using PLS-SEM. Findings from the analysis revealed that the dimension of innovativeness is significantly and positively related to students' EI.

Despite the growing body of scholarly work exploring the impact of innovativeness on entrepreneurial intention (EI), research findings remain inconsistent. Jimoh, Umar, Mohammed, and Karwai (2021) investigated whether entrepreneurship education could moderate the relationship between innovativeness and EI. This survey study focused on final-year female students at Kaduna State University, Nigeria, and employed PLS-SEM for data analysis. The results showed that the direct relationship between innovativeness and EI was insignificant. Similarly, Ajit Dahal (2020) examined the effect of innovativeness on export intention in micro and small enterprises and tested the moderating effect of access to finance. Using a survey of 150 farm owners in Nepal and PLS-SEM for analysis, the findings indicated that innovativeness did not significantly influence export intentions, nor did access to finance moderate this relationship. Given these mixed results, further investigation into the moderating effects of PAF on the relationship between innovativeness and EI is necessary. Based on this literature, the following hypotheses were formulated:

H₀₁: There is no significant relationship between innovativeness and students' EI

H₀₂: PAF does not moderate the relationship between innovativeness and EI

Perceived Access to Finance and Entrepreneurial Intention

A number of scholarly works have established a positive link between PAF and EI. For example, Olumide *et al.* (2022) investigated the factors influencing youth entrepreneurial ability and their effect on EI. The data were collected through a cross-sectional survey from 347 youths enrolled in their second and third year of study at five universities in Botswana. The data collected was analyzed through structural equation modelling in AMOS version 26 to test the research formulated hypothesis. The results of the study established that, PAF positively influence entrepreneurial ability. Valentina and Angela (2019) examined the influence of access to finance on EI of faculty of Economics and Business Administration student from Alexandru Ioan Cuza University of Iasi, one of the oldest universities in Romania. The study was conducted on a sample of 150 undergraduates and master students and the results revealed that access to financial resources is the most important obstacle identified by the students with EI.

Abdullahi, Andow, Ango, and Dabo (2022) explored the relationship between perceived access to finance (PAF) and entrepreneurial intention (EI) among Nigerian students, with focus on the moderating role of entrepreneurship education. This cross-sectional survey research targeted 420 final-year undergraduate students from the Faculty of Management Science at Kaduna State University. Data collected through surveys were analyzed using partial least square structural equation modelling (PLS-SEM). The study found that PAF significantly influences students' EI. In a related study, Arranza and Fdez (2018) investigated EI and perceived obstacles among undergraduate students in Andalusia. Surveys were distributed to 1,053 students selected through stratified random sampling from a total population of 245,675 across eight public universities. The analysis using a structural model revealed that financial obstacles are a major barrier perceived by students when starting their own businesses.

Nengomasha (2018) examined the relationship between perceived access to finance (PAF) and entrepreneurial intention (EI), as well as the moderating role of entrepreneurial self-efficacy. Data were gathered through questionnaires distributed to 620 students, randomly selected from a total population of 3,467 from all departments within the Faculty of Economics and Management Sciences at the University of the Free State in South Africa. The data were analyzed using the Statistical Package for the Social Sciences (SPSS), employing both descriptive and inferential statistics. The findings indicated that both PAF and entrepreneurial self-efficacy have a significant relationship with EI. Based on this literature, the following hypotheses were formulated:

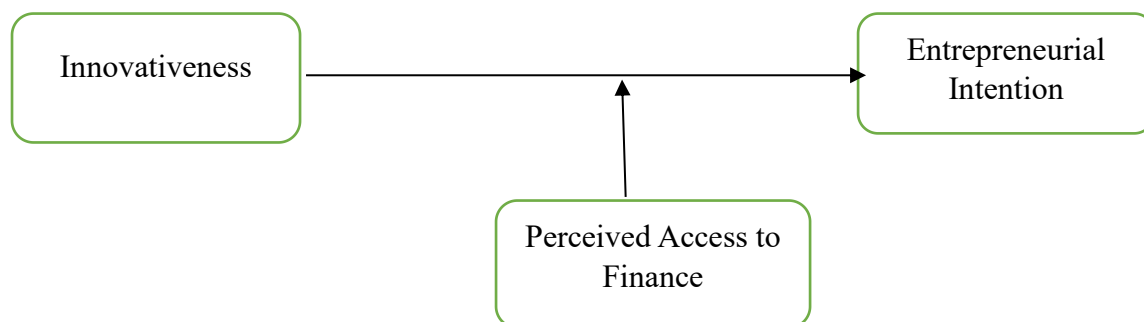
Ho3: There is no significant relationship between perceived access to finance and students' EI

Theoretical Framework

Theory of Planned Behavior (TPB)

Ajzen (1991) formulated the theory of planned behavior (TPB) to predict and analyze behavior across various contexts. This theory has been widely used to explain the factors influencing an individual's entrepreneurial intention (EI) to engage in entrepreneurial activities. The TPB model is one of the most commonly applied frameworks for studying students' entrepreneurial intentions, with numerous scholars adopting it for this purpose. According to the theory, intentions are shaped by three main variables: attitude towards behavior (ATB), perceived behavioral control (PBC), and subjective norms (SN) (Ajzen, 1991). Attitude towards behavior, in Ajzen's (1991) theory, represents an individual's appraisal, or reflection, of the given behavior. This appraisal can/may be placed on a continuum from a favorable to unfavorable. Ajzen's (1991) states that, the more favorable the attitude toward the given behavior, the greater the intention. Subjective norms refer to the degree an individual perceives social pressure to engage in entrepreneurial behaviors (Linan & Chen, 2009), as well as the perception that reference people would approve or disapprove of the decision to become an entrepreneur (Ajzen, 2001). Ajzen's (1991) explained that the greater the influence or pressure, the greater the gravitation or avoidance towards the behavior. Perceived behavioral control is defined as an individual's perception of ease or difficulty of becoming an entrepreneur (Linan & Chen, 2009). According to Ajzen (1991) the greater the feeling of behavioral control, the greater the intention to perform the given behavior. Hence this study was underpinned by Ajzen's (1991) TPB model.

Figure 1: Research framework



Source: Adapted from Bolton and Lane (2012).

Methodology

The study adopts a cross-sectional survey research design. The data gathered was analyzed using structural equation modelling (SEM) technique. The population for the study comprised of the 569 final year undergraduate students in the faculty of management science, Kaduna state university. A

sample of 226 as suggested by Krejcie and Morgan, (1970) table from the total population is considered satisfactory for the study. The study also used a simple random sampling technique to select the respondents. The instruments for measuring innovativeness in this study is four items which were adopted from (Bolton & Lane, 2012) with Cronbach's alpha of .70. EI construct was measured using 6 items adopted from (Linan & Chen 2009). Furthermore, the PAF construct is measured using 5 items adopted from the study of Luc, (2018) with Cronbach's alpha values of .70. These questions are designed using a five point Likert scale ranging from "1-strongly disagree to 5-strongly agree".

Data Analysis

Prior to conducting the primary analysis, the assumptions of normality and multicollinearity were satisfied (Hair et al., 2017). The acquired data was subsequently analyzed using the Partial Least Squares modeling (SmartPLS). Hair *et al.* (2017) advocated a two-stage assessment process for validating and evaluating the model used in this work, namely measurement models (also known as external models) and structural models (also known as internal models).

Measurement Model

To assess the measurement model used in this study, the researchers looked at the reliability of the individual items measuring each potential construct, the internal consistency reliability (i.e., composite reliability), discriminant validity, and convergence validity for each construct (Henseler et al., 2009). Although Hair *et al.* (2017) presented a scale of development indicator, an outer loading of 0.50, an AVE of 0.50, and a Composite Reliability of 0.70 are dependable and acceptable. The table below summarizes the validity and reliability findings;

Table 1: Measurement Model

Constructs	Indicators	Entrepreneurial Intention	Composite Reliability	Average Variance Extracted (AVE)
Entrepreneurial Intention	EI1	0.58	0.73	0.52
	EI3	0.81		
	EI4	0.63		
	EI5	0.53		
Innovativeness	INN1	0.65	0.78	0.54
	INN2	0.76		
	INN3	0.79		
Perceived Access to Finance	PAF1	0.73	0.78	0.55
	PAF2	0.79		
	PAF4	0.70		

According to Table 1, all the constructs are reliable, as their composite reliability values surpass the 0.70 threshold. Additionally, each construct demonstrates indicator reliability and convergent validity, evidenced by AVE values greater than 0.50 for each structure.

Additionally, Duarte and Amaro (2018) developed an additional methodology for determining discriminant validity: the Heterotrait-multimethod (HTMT) matrix. Hamid *et al.* (2017) noted that, in comparison to the HTMT criterion, the standard Fornell-Larcker criterion and cross-loading are

insufficient and insensitive for detecting the effectiveness of the identification. As a result, the discriminant validity of the HTMT matrix is determined.

Table 2: Heterotrait-Monotrait Ratio (HTMT)

Constructs	Entrepreneurial Intention	Innovativeness	Perceived Access to Finance
Entrepreneurial Intention			
Innovativeness	0.77		
Perceived Access to Finance	0.53	0.57	

As illustrated in Table 2, the HTMT statistics are calculated using the correlation of their construct. Due to the fact that the HTMT value is less than the 0.85 recommended by (Hair et al., 2017), this study's reflective latent structure has discriminant validity.

Structural Model

After the measurement model's conditions are satisfied, the structural model is evaluated. The first step in evaluating structural models is to examine theoretical relationships. Specifically, a typical bootstrap was used on a sampled instance of 226 to determine the significance of path coefficients for the correlations (Hair et al., 2017).

Table 3: Hypotheses Test

R/Ship	Beta Values	Standard Deviation	T Statistics	P Values
Innovativeness -> Entrepreneurial Intention	0.43	0.05	8.58	0.00
PAF*INN -> Entrepreneurial Intention	0.02	0.04	0.57	0.57
Perceived Access to Finance -> Entrepreneurial Intention	0.14	0.05	2.63	0.01

The hypotheses test results indicate that innovativeness has a significant positive impact on entrepreneurial intention, with a beta value of 0.43 and a highly significant p-value of 0.00, suggesting that individuals who are more innovative are more likely to have entrepreneurial intentions. Also, perceived access to finance positively influences entrepreneurial intention albeit to a lesser extent (beta value of 0.14) with a p-value of 0.01, indicating a statistically significant but weaker effect. The interaction between perceived access to finance and innovativeness (PAF*INN) shows a very weak and statistically insignificant relationship (beta value of 0.02, p-value of 0.57), suggesting that the combined effect of these two factors does not significantly impact entrepreneurial intention beyond their individual contributions. Overall, while both innovativeness and access to finance are important, innovativeness is a stronger predictor of entrepreneurial intention. Each relationship was evaluated at a 5% level of significance.

Conclusion

In conclusion, the study reveals important facts about those factors that drive entrepreneurial intention. Innovativeness emerged as a crucial determinant, significantly enhancing entrepreneurial intention with a strong positive impact. This finding underscores the importance of fostering creativity and

innovative thinking among individuals to encourage entrepreneurial activities. Programs and policies aimed at promoting entrepreneurship should thus emphasize the development of innovative skills and mindsets.

Perceived access to finance, while also positively influencing entrepreneurial intention, has a relatively weaker impact compared to innovativeness. This suggests that while financial resources are important, they are not the sole driver of entrepreneurial ambition. Ensuring that aspiring entrepreneurs believe they have access to the necessary financial support is still essential, but may not be as critical as cultivating an innovative spirit.

Interestingly, the interaction between perceived access to finance and innovativeness does not significantly influence entrepreneurial intention. This indicates that the combined effect of these two factors does not provide an additional boost beyond their individual contributions. In other words, being innovative and having access to finance independently contribute to entrepreneurial intention, but their interplay does not create any synergistic effect.

Recommendation

Based on the study's findings, several recommendations can be made to better support entrepreneurial intentions through policies and programs:

1. **Enhance Innovation Education:** Educational institutions and training programs should place greater emphasis on fostering creativity and innovation. This could include integrating entrepreneurship courses that focus on innovative thinking, problem-solving, and the application of new technologies.
2. **Create Innovation Hubs and Incubators:** Governments and private organizations should establish innovation hubs and incubators that provide resources, mentorship, and networking opportunities. These centers can help aspiring entrepreneurs develop and implement innovative ideas.
3. **Increase Access to Financial Resources:** Although innovativeness is crucial, access to finance remains a significant factor. Policymakers should work to reduce financial barriers by offering grants, low-interest loans, and other funding opportunities specifically targeted at startups and innovative projects.
4. **Promote Financial Literacy:** Enhancing financial literacy among potential entrepreneurs can help them better understand and navigate funding options. Workshops and resources on managing finances, securing investments, and budgeting can empower entrepreneurs to effectively leverage available financial resources.
5. **Encourage Collaboration between Academia and Industry:** Partnerships between universities and industry can foster a culture of innovation and entrepreneurship. Collaborative projects, internships, and research opportunities can help bridge the gap between theoretical knowledge and practical application.

By implementing these recommendations, policymakers, educators, and industry leaders can create a supportive ecosystem that nurtures both innovation and entrepreneurial intention, ultimately leading to a more vibrant and dynamic economy.

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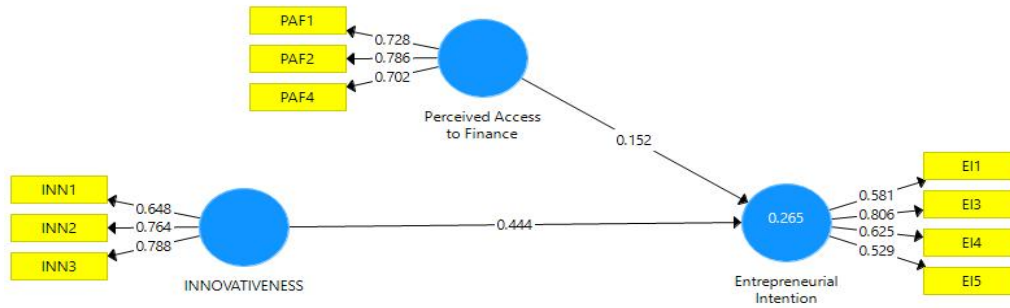
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APPENDICES

PLS Algorithm



STRUCTURAL MODEL

