

Article

# Entrepreneurial Attributes and Venture Creation among Undergraduate Students of Selected Universities in Southwest, Nigeria

Augustina E. Dada \*, Omotayo A. Adegbuyi and Mercy E. Ogbari 

Department of Business Management, Covenant University, Ota 12104, Nigeria;

omotayo.adegbuyi@covenantuniversity.edu.ng (O.A.A.); mercy.ogbari@covenantuniversity.edu.ng (M.E.O.)

\* Correspondence: augustina.dadapgs@stu.cu.edu.ng

**Abstract:** This study examined the effect of entrepreneurial attributes on venture creation among undergraduate students of selected universities in Southwest, Nigeria. The study measures the presence of entrepreneurial attributes (creativity, critical thinking, risk taking, leadership skills and resilience) among undergraduate students of selected public and private universities in Southwest, Nigeria. A total of 751 copies of questionnaires were distributed and 616 copies were returned and deemed suitable for analysis. A structural equation model (PLS 3.0) was used for the analysis. The result showed that entrepreneurial attributes contribute more to business opportunity identification, business planning and business startups. This implies that universities in Nigeria should develop these attributes (creativity, critical thinking, risk taking, leadership skills and resilience) through entrepreneurship education to reduce the rate of graduate unemployment in Nigeria.

**Keywords:** business startup; entrepreneurial attributes; entrepreneurship education; sustainable entrepreneurship; venture creation



**Citation:** Dada, Augustina E., Omotayo A. Adegbuyi, and Mercy E. Ogbari. 2023. Entrepreneurial Attributes and Venture Creation among Undergraduate Students of Selected Universities in Southwest, Nigeria. *Administrative Sciences* 13: 176. <https://doi.org/10.3390/admsci13080176>

Received: 4 May 2023

Revised: 15 June 2023

Accepted: 15 June 2023

Published: 1 August 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Unemployment is a significant issue in Nigeria, with many graduates struggling to find employment after completing their studies. According to the [National Bureau of Statistics \(2021\)](#), the unemployment rate in Nigeria stood at 33.3% in the first quarter of 2021, with a significant proportion of that figure being made up of unemployed graduates. There are various reasons for graduate unemployment in Nigeria, including a lack of job opportunities, inadequate skills and training and a mismatch between the skills graduates possess and the skills required by employers ([Aminu 2019](#)). Additionally, the Nigerian educational system often emphasizes theoretical knowledge over practical skills and entrepreneurship, which can make it challenging for graduates transition to the workforce. According to [Ibidunni, Mozie and Ayeni \(Ibidunni et al. 2020\)](#), developing students' entrepreneurial attributes before they become graduates has been identified as one of the ways to contribute to the development of the Nigerian economy.

Entrepreneurship education has been a powerful tool for developing students' attributes needed to succeed in today's rapidly changing and dynamic business environment ([Boldureanu et al. 2020](#); [Moses et al. 2016](#)). It helps individuals become more resilient, adaptable and innovative and prepares students to take on the challenges of entrepreneurship with confidence and enthusiasm ([Ogbari et al. 2016](#)). Entrepreneurial attributes refer to a set of personal characteristics, skills and traits that enable students to identify and pursue business opportunities successfully ([Farrington et al. 2012](#)). In the context of this study, entrepreneurial attributes are the creativity, critical thinking, risk taking, leadership skills, perseverance and resilience abilities of an entrepreneur ([Kumar and Shukla 2022](#); [Agbi and Sengsri 2022](#); [Al-Mamary and Alshallaqi 2022](#); [Meneghel et al. 2019](#); [Ogbari et al. 2021](#)).

Creative individuals are more likely to come up with creative methods to make the most of their limited resources and successfully navigate the early phases of business formation (Kumar and Shukla 2022), while critical thinkers acquire and analyze pertinent data, assess various options, and balance possible risks and advantages (Agbi and Sengsri 2022). Additionally, individuals who have a propensity for taking risks may launch their firms rather than seek traditional jobs (Koloba and May 2014). Resilience is related to endurance and perseverance in the face of difficulties (Brewer et al. 2019), whereas leadership abilities include effective communication and the capacity to influence people. These abilities are crucial for students who aspire to become entrepreneurs or work in entrepreneurial environments. Developing these attributes can be particularly important for undergraduate students who are interested in entrepreneurship, as they can help them to identify and capitalize on opportunities, overcome challenges and setbacks, and build successful businesses or ventures (Baum and Locke 2004). Students who acquire these qualities can not only become more successful entrepreneurs but also enhance their overall personal and professional development toward sustainable entrepreneurship. Furthermore, undergraduate students who possess entrepreneurial attributes can benefit greatly in their future careers through venture creation (Atiya and Osman 2021).

Venture creation among undergraduates has become increasingly popular in recent years with more students taking an interest in entrepreneurship and starting their businesses while still in college (Olokundun et al. 2018). There are several reasons for this trend, including the availability of resources and support for student entrepreneurs, the desire for greater control over one's career path, and the potential financial rewards of starting a successful business. Despite the importance of entrepreneurial attributes in helping students to create ventures, its effect has not been pronounced in Nigeria and other developing countries and this has been shown with the continuous increase in graduate unemployment (Ibidunni et al. 2020).

Universities, particularly entrepreneurial institutions, play a critical role in developing student entrepreneurs who are responsible for creating businesses that will contribute to socioeconomic success (McKellar 2020). However, these institutions have not been able to identify specific skills and abilities required to promote venture creation among undergraduate students. Furthermore, a limited number of studies have shown a dire need to cultivate entrepreneurial attributes among undergraduates that can initiate venture creation in Nigeria. Hence, the study examined the effect of entrepreneurial attributes on venture creation among undergraduate students of selected universities in Southwest, Nigeria. This study made use of a structural equation model to analyze data to determine its reliability and validity.

The objectives of this study are to: (a) examine the effect of creativity on venture creation, (b) investigate the influence of critical thinking on venture creation, (c) examine the effect of risk taking on venture creation, (d) examine the influence of leadership skills on venture creation and (e) investigate the effect of resilience venture creation.

To accomplish the objectives of this research, the first part provides background information on the study, while the second part concentrates on a literature review. The third part of the study addresses the results and methods used, and the final section includes data analysis, discussion of the results, conclusions, recommendations, contributions and limitations of the study.

## 2. Literature Review

Entrepreneurial attributes and venture creation are closely interconnected concepts that have been the focus of numerous studies in entrepreneurship research (Atiya and Osman 2021; Sun et al. 2020). The extant literature has established the fact that entrepreneurial attributes can be developed among undergraduate students (Embi et al. 2019; Şahin et al. 2019). These attributes are believed to play a crucial role in facilitating venture creation among aspiring entrepreneurs, as they provide the foundation for developing, innovating and launching new ventures (Sun et al. 2020). A study by Al-Shehab et al. (2021) and

Kumar and Shukla (2022) found that entrepreneurial attributes such as creativity, risk taking, critical thinking and leadership skills were significant predictors of entrepreneurial intention among undergraduate students. Another study by Drewery, Sproule and Pretti (Drewery et al. 2020) and Brewer et al. (2019) found that undergraduate students who possessed entrepreneurial attributes such as resilience, financial management skills and continuous learning were more likely to achieve entrepreneurial success.

**Creativity:** Creativity is a vital attribute for undergraduate students who aspire to become entrepreneurs (Fayolle and Gailly 2015). It has been recognized as one of the important skills that should be developed among students from higher education in the 21st century. Khairani et al. (2019) stated that creativity can contribute to enhancing undergraduates' psychological well-being. Students with strong creative skills can generate new and innovative business ideas, products or services (Kumar and Shukla 2022). They can also think outside the box and find unique solutions to problems.

**Critical thinking:** Critical thinking skills are essential for undergraduate students to identify business opportunities, analyze market trends, and make informed decisions based on data and evidence. Students with strong critical thinking skills can also evaluate the feasibility of their business ideas and identify potential challenges and risks. Supporting this, Canziani and Tullar (2017) viewed information literacy as a crucial component of critical thinking; a student must understand information to think critically. Critical thinking will help students develop traits such as tenacity, adaptability, conceptual understanding, open-mindedness, knowledge dissemination, a problem-solving mindset and personal autonomy, all of which are desirable in today's business environment (Agbi and Sengsri 2022).

**Risk taking:** Entrepreneurial attributes such as a willingness to take risks and an ability to manage uncertainty can help undergraduate students navigate the challenges and uncertainties associated with starting a new venture (Al-Mamary and Alshallaqi 2022). Entrepreneurship entails hazards, including non-financial risks associated with failure on the interpersonal level and financial risks relating to potential income losses and bankruptcy. Undergraduate students who are willing to take calculated risks are more likely to succeed in entrepreneurship. Risk taking is an important attribute for students to explore new opportunities, make bold decisions and learn from their mistakes (Koloba and May 2014).

**Leadership Skills:** Leadership skills are critical for undergraduate students who aspire to become entrepreneurs or work in entrepreneurial environments. Students with strong leadership skills can inspire and motivate their teams, make tough decisions, and take responsibility for the success or failure of their ventures (Al-Shehab et al. 2021). Furthermore, when educational institutions teach academic knowledge to students, their main purpose is to make sure that they may fulfill their personal and professional objectives, maintain their livelihood opportunities appropriately, and become useful members of society (Petre 2020). Leadership abilities in students help to instill the virtues of diligence and conscientiousness to distinguish between suitable and inappropriate behavior when they are developed.

**Resilience:** Entrepreneurial attributes such as resilience and persistence can help undergraduate students overcome setbacks and persist in the face of challenges; Drewery, Sproule and Pretti (Drewery et al. 2020) stated that starting a new venture can be a challenging and often unpredictable process, and these attributes can be critical for success. The capacity to successfully make a good adjustment to dangerous circumstances and experiences is known as resilience. Therefore, resilience is a person's successful adjustment to challenging circumstances (Meneghel et al. 2019). Resilience is an essential characteristic for undergraduate students who aspire to venture into venture creation. Venture creation involves a great deal of risk, uncertainty and setbacks, and students who possess resilience are better equipped to navigate these challenges and ultimately succeed in their entrepreneurial pursuits.

Venture creation, on the other hand, refers to the process of creating a new business venture from scratch. This process typically involves identifying a business opportunity, developing a business plan, securing funding and launching the venture (Ogbari et al. 2016). Venture creation is a complex and challenging process that requires a wide range

of skills and resources, including entrepreneurial attributes. This research will make use of four entrepreneurial processes for creating new ventures stated by [Sahlman and Stevenson \(2020\)](#): business opportunity identification, business planning, business startup and innovation.

- (i) **Opportunity Identification:** Opportunity identification is widely recognized as the initial step in starting a venture that culminates in launching new initiatives by obtaining all necessary resources and assets ([Hanohov and Baldacchino 2018](#)). Entrepreneurial success is based on identifying and pursuing opportunities, which distinguishes entrepreneurs from other members of society, implying that entrepreneurship would not exist without identifying a business opportunity.
- (ii) **Business Planning:** A Business plan is a written document that describes the current state and presupposed future of a business ([Honig and Karlsson 2004](#)). It involves preparing for future eventualities that may occur in business. According to [Ivanisević, Lošonc, Morača, Vrgović and Katić \(Ivanisević et al. 2019\)](#), business planning provides strategies and plans for achieving specific objectives and visions. The design's specifics can also help legitimize a new firm by demonstrating that the concept is practical and viable.
- (iii) **Business Startup:** A business startup is an entrepreneurial experiment that provides a medium of self-actualization, the ability to develop and implement innovative ideas, unprecedented satisfaction of current wants, and the discovery of new ideas ([Slávik 2019](#)). Starting a business while still an undergraduate can be a great way to gain practical experience and test entrepreneurial skills.
- (iv) **Innovation:** Innovation is the heart and driving force behind an entrepreneur's development. A concept must be widely embraced and integrated into people's daily lives to be considered innovative. [Ridley \(2020\)](#) defined innovation as the process of turning an idea into wealth. Innovation is a critical component of progress and growth in every sector of society. Undergraduate students are a vital source of innovation, as they bring fresh perspectives and creativity.

### *2.1. The Nature of Entrepreneurship within the University*

Entrepreneurship within the university has gained significant attention and importance in recent years ([Jami and Gökdeniz 2020](#); [Moses et al. 2016](#)). Universities recognize the value of fostering an entrepreneurial mindset among students and actively support and promote entrepreneurship education as part of their academic and research programs ([Jami and Gökdeniz 2020](#)). These universities offer entrepreneurship programs, courses and workshops to provide students with the knowledge, skills and mindset required to start and manage their businesses ([Boldureanu et al. 2020](#)).

The extant pieces of literature have also established that when it comes to entrepreneurship education among undergraduate students in the university, several best practices have been implemented to maximize their learning and entrepreneurial potential. According to [Nieuwenhuizen, Groenewald, Davids and Schachtebeck \(Nieuwenhuizen et al. 2016\)](#), some of the best practices that have been used by various universities in some part of Africa and in the Western world to develop entrepreneurship education include providing a curriculum that balances theoretical knowledge with practical application; incorporating hands-on exercises, case studies and real-world projects to help students apply entrepreneurial concepts in a practical context and offering experiential learning opportunities such as internships, entrepreneurial projects and startup competitions. These experiences provide students with real-world exposure, allowing them to develop entrepreneurial skills, build networks and gain valuable insights into the challenges and opportunities of starting and managing a venture ([Ogbari et al. 2016](#); [Olokundun et al. 2018](#)). Other programs often cover topics such as business planning, marketing, finance, innovation and leadership skills, workspace, access to funding and networking opportunities to help students turn their innovative ideas into successful businesses ([Embi et al. 2019](#)).

## 2.2. Empirical Review

A study conducted by Singh, Dwivedi and Sharma (Singh et al. 2022) explored the relationship between entrepreneurial attributes and academic performance among undergraduate students. The study found that students who possess entrepreneurial attributes, such as creativity, risk taking and passion, were more likely to perform well academically. A study by Wang et al. (2023) found that entrepreneurial education, mentorship and access to resources significantly predicted venture creation among undergraduate students in China. Atiya and Osman (2021) investigated how entrepreneurial characteristics affected university students' intentions to start their businesses in Sudan and Oman. Students from three universities in Oman and Sudan make up the study's population, and 660 of those students were randomly chosen as the sample. The entrepreneurial characteristics examined were risk tolerance, perseverance and self-confidence. The results indicated that entrepreneurship characteristics among the students at the three institutions were high. In the same vein, Anwar and Saleem (2019) stated that everyone possesses some entrepreneurial attributes, even though many individuals may not be aware of them. This implies that entrepreneurial attributes may be learned from both nature and nurture. Ibidunni, Mozie and Ayeni (Ibidunni et al. 2020) also examined the influence of entrepreneurial characteristics among university students as a way to better understand young people's intentions in a growing economy. The study aimed to determine how entrepreneurial characteristics affected Nigerian university students' intentions to become entrepreneurs. This study demonstrated that risk tolerance influences the capacity to recognize business opportunities favorably. These studies highlight the importance of developing entrepreneurial attributes among undergraduate students for their academic performance, entrepreneurial intention and success. It is important to note, however, that other factors can influence entrepreneurial success, such as access to resources, market conditions and regulatory environment.

## 2.3. Hypothesis Development for Entrepreneurial Attributes and Venture Creation

### 2.3.1. Creativity and Venture Creation

Creative students are more likely to come up with unique business ideas, and have the ability to identify opportunities that others may overlook. Additionally, creative students are better at adapting to changing environments and identifying potential challenges that could arise in the course of their venture (Sun et al. 2020). Furthermore, creative students are more likely to be confident and take risks, which is important for starting and running a successful venture (Entrialgo and Iglesias 2020). This confidence is driven by their ability to generate new ideas and their belief that they can bring these ideas to fruition (Sarma and Marszalek 2019). Venture creation, on the other hand, involves taking a risk by starting a new business or project with the hope of generating a profit (Reyad et al. 2019).

**H1.** *Creativity positively affects venture creation.*

### 2.3.2. Critical Thinking and Venture Creation

Critical thinking is a vital skill for venture creation. It involves the ability to analyze information, identify problems, evaluate alternatives and make informed decisions. In the context of venture creation, critical thinking enables student entrepreneurs to assess the viability of their business ideas, identify potential risks and opportunities and make decisions that will lead to successful outcomes (Agbi and Sengsri 2022; Canziani and Tullar 2017).

**H2.** *Critical thinking positively influences venture creation.*

### 2.3.3. Risk Taking and Venture Creation

Risk taking is essential for entrepreneurship because it requires individuals to step out of their comfort zones and embrace uncertainty. Students who are willing to take risks are more likely to have the confidence and drive to pursue new business opportunities, even if there is a chance of failure (Giaccone and Magnusson 2022). They are also more likely to

be resilient and able to bounce back from setbacks. However, it is important to balance risk taking with careful planning and evaluation to ensure the best possible outcomes.

**H3.** *Risk taking positively affects venture creation.*

#### 2.3.4. Leadership Skills and Venture Creation

Leadership skills are critical for venture creation. Starting a new business venture requires a wide range of skills, including the ability to lead and manage a team, communicate effectively, make strategic decisions and inspire others (Drewery et al. 2020). Therefore, students with strong leadership skills are more likely to succeed as entrepreneurs. Furthermore, leadership skills enable students to effectively communicate their vision, mission and values to their team. They can inspire others to work toward a common goal, delegate tasks and motivate team members to achieve their full potential (Ogbari et al. 2021).

**H4.** *Leadership skills positively influence venture creation.*

#### 2.3.5. Resilience and Venture Creation

Resilience is the ability to bounce back from setbacks, adapt to changing circumstances and stay focused on long-term goals (Idris et al. 2019). Students who possess resilience are better equipped to handle the stress and uncertainties of entrepreneurship. Undergraduate students who are resilient toward venture creation possess several key traits. Firstly, they have a growth mindset, which means they see challenges as opportunities for growth and learning rather than as roadblocks. They are also self-aware and able to manage their emotions effectively, which helps them stay calm and focused in high-pressure situations. Resilient students are also able to set realistic goals and develop a plan of action to achieve them (Fisher et al. 2016). They can adapt their plans as circumstances change and are open to feedback and constructive criticism (Cárdenas-Gutiérrez et al. 2022). Therefore, students interested in venture creation need to focus on developing their resilience alongside their business and technical skills.

**H5.** *Resilience positively affects venture creation.*

### 3. Result

#### (a) Test of hypothesis

Smart PLS Structural Equation Modeling (PLS-SEM) was used to assess the study's hypothesis. The level of the independent construct on the dependent was measured using the structural path co-efficient ( $R^2$ ) through the PLS Algorithm Model, the PLS Bootstrapping model with P value and T values. According to Bollen and Stine (1992), the 5000 subsamples of bootstrapping included in the smart PLS assist achieve excellent results. The hypothesis test aids in determining if the formulated hypothesis has sufficient statistical support for or against it. This hypothesis looked at examined the effect of entrepreneurial attributes on venture creation among undergraduate students at selected universities in Southwest, Nigeria. The empirical results were interpreted using the path coefficient values, the t-statistics values, the R-square values, and the  $p$ -values. The degree and intensity of the link between entrepreneurial traits and venture formation are determined by the path coefficient. The  $p$ -value, as shown in Figure 1, calculates the likelihood that an observed difference might have happened by random chance. The degree of variation in the dependent variable that is explained by the independent variable is determined by the R-square. The degree of variation in the dependent variable that is explained by the independent variable is determined by the R-square. The t-statistics display the estimated differences in units of standard error at the same time.

#### (b) Path Coefficients ( $\beta$ ) and T-statistics estimation

The path coefficients and the standardization coefficient were obtained using partial least square. The attributes were used to test the hypothesis' significance. The greater the attributes, the more significant the influence on the endogenous latent concept. However,

bootstrapping is depicted for entrepreneurial attributes and venture creation (i.e., business opportunity identification, business planning, business startup and innovation) of selected institutions was presented in Figure 1.

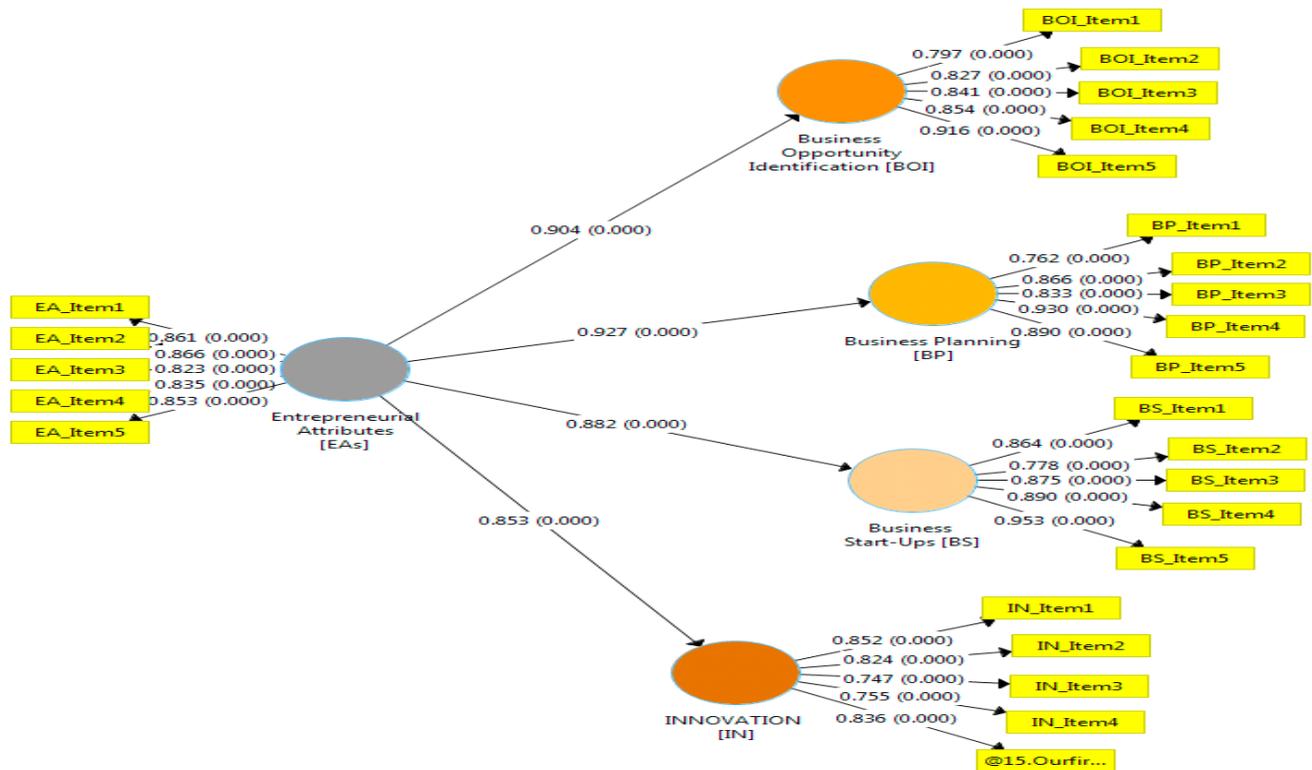


Figure 1. Path Co-efficient and p values of entrepreneurship attributes and venture creation.

This hypothesis predicted that entrepreneurial attributes which consist of creativity, critical thinking, risk taking, leadership skills and resilience significantly influence venture creation (i.e., business opportunity identification, business planning, business startup and innovation) as displayed in Table 1.

Table 1. Path Coefficients for Entrepreneurial Attributes and Venture Creation.

Variables and Cross Loading	Path Co-Efficient	Std. Dev. (STDEV)	T-Statistics (O/STDEV)	P Attributes
Entrepreneurial attributes Business opportunity identification	0.904	0.050	72.484	0.000
Entrepreneurial attributes Business planning	0.927	0.072	105.138	0.000
Entrepreneurial attributes Business startup	0.882	0.080	48.715	0.000
Entrepreneurial attributes Innovation	0.853	0.073	43.780	0.000
	R Square (R <sup>2</sup> )		R Square (R <sup>2</sup> ) Adjusted	
opportunity identification	0.818		0.813	
Business Planning	0.859		0.841	
Business startup	0.779		0.777	
Innovation	0.728		0.721	

Significant correlations in the analysis are indicated by the path coefficient and bootstrapping of all constructs at 0.05. The model showed a statistically significant relationship between the route coefficient of entrepreneurial attributes and business opportunities identification (i.e.,  $\beta = 0.904$ ,  $T_{val} = 72.484$ ,  $p = 0.000$ ); entrepreneurial attributes and business

planning (i.e.,  $\beta = 0.927$ ,  $T_{val} = 105.138$ ,  $p = 0.000$ ); entrepreneurial attributes and business startup (i.e.,  $\beta = 0.882$ ,  $T_{val} = 48.715$ ,  $p = 0.000$ ); and entrepreneurial attributes and innovation (i.e.,  $\beta = 0.853$ ,  $T_{val} = 43.780$ ,  $p = 0.000$ ). Hence, the result showed that entrepreneurial attributes contribute more to business planning, business opportunity identification and business startups while innovation had the least.

#### 4. Material and Methods

For this study, the survey research methodology was used. This made it possible to collect data via questionnaires. This approach was used for this study because it provides objective and measurable data analysis. In addition, this study involves a larger sample size, and this method helps to reduce subjective bias and personal interpretations. This study also employed a multiple sampling technique that involves purposive sampling, stratified sampling and a convenient method. Purposive in the sense that only universities that offer entrepreneurship as a Bsc degree program in Southwest, Nigeria were selected for this study. This allowed the researchers to apply stratified sampling after determining the groups. Furthermore, only undergraduate students across the selected private and public universities that are accessible and available at the time of questionnaire distribution were conveniently selected for this study. The students of three selected public and three private universities in Southwest, Nigeria were given 751 copies of questionnaires. A total of 616 copies of the questionnaire were retrieved after follow up and deemed suitable for the analysis. The questionnaire was divided into two sections; the first part asked about the respondents' demographics, while the second section asked about independent variables such as creativity, taking risks, critical thinking, leadership skills and displaying resilience. Items for the dependent variables are identifying business opportunities, business planning, starting a business and innovation. Each question used a 5-Likert scale from strongly agree (5) to strongly disagree (1). The data generated from the fieldwork was analyzed using IBM Statistical Package for Social Science (SPSS) software package Version 26 and the Structural Equation Model (SEM). Structural Equation Modeling (SEM) and the Statistical Package for Social Sciences (SPSS) were used to examine the responses and test for correlation and regression between the variables. To evaluate the overall fit of the study model, various fit indices were used. The research work spans through three academic sessions and the data were collected within three months (July–September 2022).

The demographic characteristics of the undergraduate students in the selected six (6) Universities are displayed below.

Table 2 presented the descriptive statistics on the classification of responses on demographic characteristics of respondents.

**Table 2.** Demographic Characteristics of the Respondents' [Number of Observations = 616].

SN	Variables	Frequency	Percentage %	
1	Gender	Male	278	45.1%
		Female	338	54.9%
		Total	616	100%
2.	Age	15–19	367	59.6%
		20–24	157	25.5%
		25 years and above	92	14.9%
		Total	616	100%
3	Programme	BSc	201	32.6%
		B.A	123	20.0%
		B.Tech	112	18.2%
		B.Engr	180	29.2%
		Total	616	100%

Table 3 represented the response rate from the questionnaire administered to the target respondents for the study. The result presented was based on the responses from the questionnaire that were correctly filled in and returned.

**Table 3.** Respondents' Response Rate.

Respondent's Response Rate	Number	Percentage
Correctly filled and returned	616	82%
Not Returned and not filled	135	18%
Total	751	100%

Table 3 represents the factor loading of all the items of entrepreneurial attributes (ENT\_ATTR) was above the minimum threshold of 0.70 and also statistically significant at 0.05 level of significance as recommended by [Fornell and Larcker \(1981\)](#).

Table 4 shows that all dimensions related to entrepreneurial attributes and venture creation have values of more than 0.80 and 0.70, respectively. This indicates that the constructs have a good composite internal consistency and Cronbach Alpha reliability. The factor loadings for the various construct measures varied from 0.853 to 0.861. Since the essential condition for the degree of fitness was adequately satisfied, the instrument is determined to be valid and trustworthy. The threshold was advised by [Fornell and Larcker \(1981\)](#) for all scales and measurement items. First, the factor loading needs to be more than the 0.70 minimum threshold number. Secondly, composite reliability should be at least 0.80, and preferably higher. The third requirement is that the construct average variance extracted estimate (AVE) should be greater than the minimum attributes of 0.50. Evidently, for the instruments to be considered credible, the Cronbach Alpha must be equal to or higher than 0.70.

**Table 4.** Factor Loading for Entrepreneurial Attributes in the selected universities.

	Factor Loading	Error Variance	Composite Reliability	AVE	Cronbach's Alpha	No. of Indicators
Indicators	>0.7	<0.5	$\geq 0.8$	$\geq 0.5$	$\geq 0.7$	
<b>Entrepreneurial attributes (ENT_ATTR)</b>			0.831	0.608	0.759	5
ENT_ATTR1	0.861	0.139				
ENT_ATTR2	0.866	0.134				
ENT_ATTR3	0.823	0.177				
ENT_ATTR4	0.835	0.165				
ENT_ATTR5	0.853	0.147				

## 5. Discussion of Findings

The objective of this study was to examine the influence of entrepreneurial attributes on venture creation (i.e., business opportunity identification, business planning, business startups and innovation). This hypothesis predicted that entrepreneurial attributes of creativity, critical thinking, risk taking, leadership skills and resilience significantly and positively influence venture creation (i.e., business opportunities, business planning, business startups and innovation) in the selected universities in Southwest, Nigeria. Both structural and measurement models were considered for data analysis.

Creativity contributes significantly to venture creation. This indicates that creativity enables students to identify unique opportunities and generate novel ideas for entrepreneurial ventures. This finding corroborates the study of [Fayolle and Gailly \(2015\)](#) which states that students with higher levels of creativity and innovative thinking tend to have stronger zeal to be entrepreneurial in nature. Furthermore, this result aligns with the study by [Khairani et al. \(2019\)](#), that undergraduate creative students tend to think outside the box

and come up with innovative solutions, which is essential for identifying and pursuing viable business opportunities. This suggests that creativity is crucial in generating innovative business ideas and identifying entrepreneurial opportunities. The results of this study also show that creativity is closely linked to problem solving and innovation, both of which are important for venture creation. This supports the research by [Entrialgo and Iglesias \(2020\)](#), which demonstrated that creativity positively influenced the level of innovation in entrepreneurship among undergraduate students. Creative students are better equipped to tackle complex challenges, think critically and develop unique solutions, enhancing their ability to create and develop successful ventures.

In the same vein, critical thinking contributes significantly to venture creation. This implies that critical thinking is closely associated with effective problem-solving skills, which are vital in venture creation. This finding is in line with the research of [Agbi and Sengsri \(2022\)](#) that showed that undergraduate students with higher critical thinking abilities were more effective in addressing challenges and finding innovative solutions in entrepreneurial endeavors. The finding also supported the research by [Canziani and Tullar \(2017\)](#) that undergraduate students with higher levels of critical thinking ability were more effective in assessing the feasibility and viability of potential business opportunities. Critical thinkers approach problems systematically, consider multiple perspectives, and generate creative ideas for overcoming obstacles. Additionally, critical thinkers are better able to analyze market trends, assess risks and make informed judgments about the potential success of a venture.

Furthermore, risk taking significantly influences venture creation. This indicates that risk taking is inherent in the process of venture creation, which involves committing resources, time, and efforts with uncertain outcomes. This result corroborates with the study of [Al-Mamary and Alshallaqi \(2022\)](#), which revealed that undergraduate students with a higher risk-taking propensity were more likely to engage in venture creation activities. Therefore, students who are willing to take calculated risks are more likely to invest their resources and actively pursue the establishment of a new venture. Moreover, the findings also align with the study of [Koloba and May \(2014\)](#) which demonstrated that undergraduate student entrepreneurs who embrace risk taking are more likely to engage in innovative activities and develop creative solutions.

Additionally, leadership skills contribute significantly to venture creation. This implies that leadership skills are associated with the ability to create and communicate a compelling vision for the venture and establish a clear strategic direction. This finding supports the study of [Ogbari, Chima, Ufua, Olarewaju and Ukenna \(2021\)](#) that undergraduate student entrepreneurs with strong leadership skills were better able to articulate a compelling vision that inspired and motivated team members. Effective leaders establish strategic goals, set priorities and provide guidance to ensure the venture remains focused and aligned with its long-term objectives. The finding also corroborates with the research by [Petre \(2020\)](#) that demonstrated that undergraduate student entrepreneurs with strong leadership skills demonstrated higher-quality decision-making processes, which had a positive impact on the success of their ventures. Additionally, effective leaders analyze information, consider different perspectives and make informed decisions that align with the goals and vision of the venture.

Resilience significantly contributes to venture creation. This indicates that resilience is closely linked to adaptability and flexibility, which are essential for successful venture creation. This finding is in line with the research of [Montoro-Fernández, Cárdenas-Gutiérrez, and Bernal-Guerrero \(Cárdenas-Gutiérrez et al. 2022\)](#), which discovered that resilience undergraduate students exhibited greater adaptability and flexibility in response to unexpected challenges. The finding also supports the study of [Brewer et al. \(2019\)](#), which revealed that resilience undergraduate students are more likely to embrace learning opportunities, seek feedback and engage in continuous learning and self-improvement. Resilient students view challenges as opportunities for growth and development, enabling them to enhance their entrepreneurial skills and knowledge.

From the findings it was also discovered that the entrepreneurial attributes to innovation had the least predictive value; this shows that universities in Nigeria should pay attention to technological innovation and advancement to develop entrepreneurial attributes among undergraduate students.

## 6. Conclusions and Recommendations

In conclusion, entrepreneurial attributes play a critical role in facilitating venture creation among undergraduate students. Empirical research has also shown that creativity, critical thinking, risk taking, leadership skills and resilience significantly affect venture creation among undergraduate students. These attributes can help undergraduate students identify opportunities, manage risk and uncertainty and build networks. In addition, by providing resources, support and opportunities to students interested in entrepreneurship, universities can help to foster a culture of entrepreneurship and sustain entrepreneurship attributes among undergraduates through entrepreneurial education. The entrepreneurship education curriculum should focus more on the practical aspects of entrepreneurship to develop creativity, critical thinking, risk taking, leadership skills and resilience among undergraduate students. Venture creation among undergraduate students can provide a valuable opportunity to develop entrepreneurship skills, gain real-world experience and create new businesses and innovations.

This study recommends that Nigerian universities should inculcate some of the best practices used in the western world, such as financial literacy concepts relevant to entrepreneurship (budgeting, financial forecasting and resource allocation), experiential learning, mentorship and training programs to develop entrepreneurial attributes among undergraduate students. Furthermore, the Nigerian universities' support systems should be characterized by programs such as technological innovation, business incubation and acceleration to support entrepreneurial ventures.

## 7. Contributions to Knowledge

The study offers fresh insights into the entrepreneurial attributes possessed by students of the selected institutions. These attributes aid students in learning, recognizing and gaining experience in the startups and in management of new businesses. Students who possess entrepreneurial qualities are better equipped to recognize and take advantage of market possibilities.

- The study contributes to the body of knowledge because it is one of the few recent, original, practical correlations and nexus of the relationship between entrepreneurial attributes and venture creation, particularly in the context of a developing economy such as Nigeria's. The structural equation modeling (SEM) technique, which was used as a statistical tool, contributed further to reveal the pattern of nexus between the variables.
- This study provides empirical evidence on the unique contribution of research as it relates to venture creation among undergraduate students. In addition, this study contributes to sustainable development goal four on quality education.

## 8. Limitation to the Study

- Only structural equation modeling was used in this investigation. The hypotheses were investigated using (Smart Partial Least Square 3.0) methodology. Future research may employ a range of approaches, notably interviews, to gather more data that the quantitative analysis omitted.
- Only universities that offer entrepreneurship studies as a degree program in Southwest, Nigeria were used for this study, other researchers can make use of universities that offer entrepreneurship as a degree in other parts of Nigeria.

**Author Contributions:** Conceptualization, A.E.D.; validation, M.E.O.; investigation, O.A.A.; writing—review and editing, A.E.D.; project administration, M.E.O.; resources, A.E.D., O.A.A. and M.E.O. and supervision, O.A.A. and M.E.O. All authors have read and agreed to the published version of the manuscript.

**Funding:** The Article Processing Charges (APC) for this article were paid by Covenant University.

**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Covenant University’s ethics committee and approved by the Institutional Review Board (or ethics committee) of Covenant University with approved number CU/HREC/DAE/168/22.

**Informed Consent Statement:** For this study, each participant provided informed permission.

**Data Availability Statement:** Available on request.

**Acknowledgments:** Covenant University Centre for Research and Innovation (CUCRID), which sponsored the publishing of this article, is acknowledged by the authors.

**Conflicts of Interest:** The authors stated there were no competing interests.

## References

- Agbi, Augustine, and Supanee Sengsri. 2022. Factors associated with the adoption of mobile-blended learning to develop critical thinking skills in Nigerian business education undergraduate students. *Journal of Theoretical and Applied Information Technology* 98: 3655–66.
- Al-Mamary, Yaser Hasan, and Mohammad Alshallaqi. 2022. Impact of autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness on students’ intention to start a new venture. *Journal of Innovation & Knowledge* 7: 1–10.
- Al-Shehab, Noor, Mukhtar AL-Hashimi, Araby Madbouly, Sameh Reyad, and Allam Hamdan. 2021. Do employability skills for business graduates meet the employers’ expectations? The case of retail Islamic banks of Bahrain. *Higher Education, Skills and Work-Based Learning* 11: 349–66. [CrossRef]
- Aminu, Alarudeen. 2019. Characterising graduate unemployment in Nigeria as education-job mismatch problem. *African Journal of Economics Review* 7: 113–30.
- Anwar, Imran, and Imran Saleem. 2019. Exploring entrepreneurial characteristics among university students: An evidence from India. *Asia Pacific Journal of Innovation and Entrepreneurship* 13: 282–95. [CrossRef]
- Atiya, Tariq, and Zaroug Osman. 2021. The effect of entrepreneurial characteristics on the entrepreneurial intention of university students in Oman and Sudan. *Entrepreneurship and Sustainability* 8: 217. [CrossRef]
- Baum, J. Robert, and Edwin A. Locke. 2004. The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology* 89: 587. [CrossRef]
- Boldureanu, Gabriela, Alina Măriuca Ionescu, Ana-Maria Bercu, Maria Viorica Bedrule-Grigoruță, and Daniel Boldureanu. 2020. Entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability* 12: 1267. [CrossRef]
- Bollen, Kenneth A., and Robert A. Stine. 1992. Bootstrapping goodness-of-fit measures in structural equation models. *Social Methods Respondece* 21: 205–29. [CrossRef]
- Brewer, Margo L., Gisela van Kessel, Brooke Sanderson, Fiona Naumann, Murray Lane, Alan Reubenson, and Alice Carter. 2019. Resilience in higher education students: A scoping review. *Higher Education Research & Development* 38: 1105–20.
- Canziani, Bonnie, and William L. Tullar. 2017. Developing critical thinking through student consulting projects. *Journal of Education for Business* 92: 271–79. [CrossRef]
- Cárdenas-Gutiérrez, Antonio Ramón, Antonio Bernal-Guerrero, and Elisabet Montoro-Fernández. 2022. Entrepreneurial Resilience: A Case Study on University Students. *International Journal of Environmental Research and Public Health* 19: 52589.
- Drewery, David W., Robert Sproule, and T. Judene Pretti. 2020. Lifelong learning mindset and career success: Evidence from the field of accounting and finance. *Higher Education, Skills and Work-Based Learning* 1: 11–15. [CrossRef]
- Embi, Yussof Che, Nor Azizan, Haruna Babatunde Jaiyeoba, and Sheila Aionon Yussof. 2019. The effects of students’ entrepreneurial characteristics on their propensity to become entrepreneurs in Malaysia. *Education+Training* 61: 1020–37.
- Entrialgo, Montserrat, and Víctor Iglesias. 2020. Entrepreneurial intentions among university students: The moderating role of creativity. *European Management Review* 17: 529–42. [CrossRef]
- Farrington, Shelley M., Danie J. L. Venter, Christine R. Schrage, and Peter O. Van der Meer. 2012. Entrepreneurial attributes of undergraduate business students: A three country comparison revisited. *South African Journal of Economic and Management Sciences* 15: 333–51. [CrossRef]
- Fayolle, Alain, and Benoit Gailly. 2015. The impact of entrepreneurship education on entrepreneurial attitudes and intention Hysteresis and persistence. *Journal of Small Business Management* 53: 75–93. [CrossRef]

- Fisher, Rosemary, Alex Maritz, and Antonio Lobo. 2016. Does individual resilience influence entrepreneurial success. *Academy of Entrepreneurship Journal* 22: 39–53.
- Fornell, Claes, and David F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 11: 39–50. [CrossRef]
- Giaccone, Sonia C., and Mats Magnusson. 2022. Unveiling the role of risk-taking in innovation: Antecedents and effects. *Research & Development Management* 52: 93–107.
- Hanohov, Ruven, and Leonie Baldacchino. 2018. Opportunity recognition in sustainable entrepreneurship: An exploratory study. *International Journal of Entrepreneurial Behavior & Research* 24: 333–58.
- Honig, Benson, and Tomas Karlsson. 2004. Institutional forces and written business plan. *Journal of Management* 30: 29–48. [CrossRef]
- Ibidunni, Ayodotun Stephen, Dumebi Mozie, and Adebani William A. A. Ayen. 2020. Entrepreneurial characteristics amongst university students: Insights for understanding entrepreneurial intentions amongst youths in a developing economy. *Education + Training* 63: 71–84. [CrossRef]
- Idris, Izazol, Ahmad Zamri Khairani, and Hasni Shamsuddin. 2019. The Influence of Resilience on Psychological Well-Being of Malaysian University Undergraduates. *International Journal of Higher Education* 8: 153–63. [CrossRef]
- Ivanisević, Andrea, Alpar Lošonc, Slobodan Morača, Petar Vrgović, and Ivana Katić. 2019. Exploring the business planning practices in smes in a developing country. *International Journal of Industrial Engineering Management* 10: 105–14. [CrossRef]
- Jami, Yonous, and Ismail Gökdeniz. 2020. The role of universities in the development of entrepreneurship. *Przedsiębiorczość-Edukacja* 16: 85–94. [CrossRef]
- Khairani, Ahmad Zamri, Shamsuddin Hasni, and Idris Izazoh. 2019. Improving psychological well-being among undergraduates: How creativity in learning can contribute. *Jurnal Komunikasi: Malaysian Journal of Communication* 35: 346–60. [CrossRef]
- Koloba, Habofanwe Andreas, and Christopher May. 2014. Innovation and risk-taking propensity of Generation Y students in South Africa. *Mediterranean Journal of Social Sciences* 5: 2119. [CrossRef]
- Kumar, Rakesh, and Shalini Shukla. 2022. Creativity, proactive personality and entrepreneurial intentions: Examining the mediating role of entrepreneurial self-efficacy. *Global Business Review* 23: 101–18.
- McKellar, Quintin. 2020. Building a culture of innovation and entrepreneurship in Universities. *Higher Education in the Arab World* 2020: 96–107.
- Meneghel, Isabella, Isabel M. Martínez, Marisa Salanova, and Hans De Witte. 2019. Promoting academic satisfaction and performance: Building academic resilience through coping strategies. *Psychology in the Schools* 56: 875–90. [CrossRef]
- Moses, Chinonye, Ayodele Maxwell Olokundun, Mosunmola Akinbode, Mayowa G. Agboola, and Fred Inelo. 2016. Entrepreneurship education and entrepreneurial intentions: The moderating role of passion. *The Social Sciences* 11: 645–53.
- National Bureau of Statistics. 2021. *Social Statistics in Nigeria*; Abuja: The NBS Publication.
- Nieuwenhuizen, Cecile, Darelle Groenewald, John Davids, and C. Schachtebeck. 2016. Best practice in entrepreneurship education. *Problems and Perspectives in Management* 14: 528–36. [CrossRef]
- Ogbari, Mercy Ejoywokeoghene, George Uzoma K. Chima, Daniel E. Ufua, Favour O. Olanrewaju, and Stephen I. Ukenna. 2021. Transformational Leadership in the Nigerian Business Environment: A Critical Review. *Business & Social Sciences* 6: 33–56.
- Ogbari, Mercy Ejoywokeoghene, Maxwell Ayodele Olokundun, John Uzuegbunam, David Taiwo Isiavwe, Julie Enamen Ilogho, James Nwonye Obi, and Chinonye Love Moses. 2016. Data on entrepreneurship education and entrepreneurial performance of aspiring entrepreneurs in selected Nigerian universities. *Data in Brief* 20: 108–12. [CrossRef]
- Olokundun, Maxwell, Chinonye Love Moses, Oluwole Iyiola, Stephen Ibidunni, Mercy Ogbari, Fred Peter, and Taiye Borishade. 2018. The effect of non-traditional teaching methods in entrepreneurship education on students' entrepreneurial interest and business start-ups. A data article. *Data in Brief* 19: 16–20. [CrossRef]
- Petre, Gianina. 2020. Developing students' leadership skills through cooperative learning: An action research case study. *In International Forum* 23: 143–163.
- Reyad, Sameh M. Reda, Abdalmuttaleb Musleh Al-Sartawi, Sherine Badawi, and Allam Hamda. 2019. Do entrepreneurial skills affect entrepreneurship attitudes in accounting education? *Higher Education, Skills and Work-Based Learning* 9: 739–57. [CrossRef]
- Ridley, Matt. 2020. *How Innovation Works: And Why it Flourishes in Freedom*. New York: Harper.
- Şahin, Faruk, Hande Karadağ, and Büşra Tuncer. 2019. Big five personality traits, entrepreneurial self efficacy and entrepreneurial intention: A configurational approach. *International Journal of Entrepreneurial Behaviour & Research* 25: 1188–211.
- Sahlman, William, and Howard Stevenson. 2020. *The Entrepreneurial Venture*. Boston: Harvard Business School.
- Sarma, Sumita, and Jacob M. Marszalek. 2019. New venture growth: The role of ecosystem elements and prior experience. *Entrepreneurship Research Journal* 10: 11–26. [CrossRef]
- Singh, Ravindra, Ajay Dwivedi, Shikha Gupta, Sumanjeet Singh, and Seema Singh. 2022. Elucidating the moderating role of personality traits in probing the linkage between digital entrepreneurship characteristics and perceived opportunities. *Journal of Global Entrepreneurship* 12: 175–88. [CrossRef]
- Slávik, Štefan. 2019. The Business model of start-up—Structure and consequences. *Administrative Sciences* 9: 369.

Sun, Hongyi, Wenbin Ni, Pei-Lee Teh, and Carol Lo. 2020. The systematic impact of personal characteristics on entrepreneurial intentions of engineering students. *Frontiers in Psychology* 11: 1072. [[CrossRef](#)] [[PubMed](#)]

Wang, Jie, Chelsea Gill, and Kuan-Huei Lee. 2023. Effective mentoring in a work-integrated learning (WIL) program. *Journal of Teaching in Travel & Tourism* 23: 20–38.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.