



# **Entrepreneurship Skills and Sustainable Development: The Moderator Effect of Education Quality Management**

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## **Keywords:**

*Creativity skills, Financial literacy,  
Market research, Sustainable  
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## **A B S T R A C T**

*Objectives: Governments throughout the world are eager to help their students acquire 21st-century skills for the workforce; nevertheless, developing the appropriate policies and teaching methods is difficult in the absence of a more precise definition of those skills. This study looked at the connections between entrepreneurial skills (ES) and sustainable development (SD). Education quality management (EQM) is also being used as a moderator variable.*

*Method: To collect quantitative data for the study, a survey using a standardized questionnaire was utilized. The intended audience consisted of the lecturers and undergraduate students at the public universities in Kwara State, Nigeria. The data was analyzed using the software programmes SPSS and SmartPLS 3.0.*

*Results: The findings from the direct relationships demonstrate the significance of entrepreneurial skills elements in fostering SD, particularly in Nigerian public universities. Furthermore, the moderate impact of education quality management on the proposed relationship was investigated. Therefore, EQM moderates the association between creativity skills, market research, and SD in a positive manner. In contrast, EQM does not influence the relationship between financial literacy and SD.*

*Implication: University administrators, academics, scholars, and those in charge of making decisions in the higher education sector will find the study's conclusions useful in developing policies that will enhance students' entrepreneurial skills and SD.*

*Originality/value: This work has added to the body of knowledge regarding EQM's mediating function in the relationship between ES and SD. This study can also shed light on how EQM can act as a mediator in the interaction between financial literacy skills and SD.*

## 1. INTRODUCTION

Imparting entrepreneurial education and skills is becoming a crucial component of all educational programmes. Improved problem-solving, creativity, invention, and calculated risk-taking are among the business talents it fosters and assists in producing new ideas. In the end, it promotes company creation and administration to address socioeconomic requirements. Students now need to take entrepreneurship education because of issues like youth unemployment, the trade deficit, and the growing national debt. People must deal with a global marketplace where moral problems including adulterated products, exorbitant costs, integrity and trust, rights of the customer, moral transgressions, and moral obligations are commonplace. It's crucial to raise students' awareness of these issues and provide students with the entrepreneurship education they need to either overcome or fix issues.

The interconnected pillars of sustainable development, quality education, and entrepreneurship are essential for both societal advancement and economic expansion. Comprehending the interdependence of these components is imperative in promoting comprehensive growth and tackling worldwide issues. The spirit of innovation, tenacity, and flexibility necessary for negotiating the complexity of today's world is embodied by entrepreneurial skills. It enables people to recognize opportunities, take measured risks, and turn concepts into workable solutions. These abilities also apply to social entrepreneurship and sustainable businesses that put purpose and profit above all else. Harmonizing economic prosperity, social equity, and environmental stewardship is essential to sustainable development. This goal is aided by entrepreneurship, which stimulates innovation, encourages resource efficiency, and supports inclusive growth. Communities can advance the global sustainability agenda by creating new pathways toward resilient livelihoods and sustainable practices through the application of entrepreneurial mindsets.

Sustainable development and entrepreneurship skills thrive when there is a foundation of high-quality education. In addition to teaching information and abilities, it fosters ethical

leadership, teamwork, and critical thinking qualities that are crucial for future change agents and entrepreneurs. Educational institutions can cultivate a new generation of innovators capable of tackling complex problems and promoting positive societal transformation by providing opportunities for experiential learning and utilizing interdisciplinary approaches. However, achieving the full potential of this triad requires an all-encompassing strategy that embraces cross-sector collaboration and breaks down boundaries between disciplines. It necessitates that legislators create inclusive educational programmes that give entrepreneurship education a top priority and advance sustainable development ideas. It also exhorts companies to incorporate sustainability into their fundamental business plans and to fund learning programmes that foster the development of entrepreneurial skills.

## 2. STATEMENT OF THE PROBLEM

The development of entrepreneurship skills is essential for fostering innovation and economic growth. However, there is a persistent issue in the alignment between entrepreneurship education and practical skills required in the real world. Many educational institutions emphasize theoretical knowledge over practical skill-building, resulting in graduates who are inadequately prepared to start and sustain successful businesses. Also, Numerous research studies have been conducted on Entrepreneurship and sustainable development. Edokpolor [1] focuses on Entrepreneurship education and sustainable development: the mediating role of entrepreneurial skills. The purpose of the study is to investigate how entrepreneurship education (EE) and the fundamental principles of sustainable development (CVSD) interact, with a focus on the mediating role of ESDU. In the correlational study, 399 Nigerian university undergraduates who were specifically chosen were asked a structured questionnaire to provide quantitative data. The outcomes showed that ESDU had a positive and statistically significant mediating effect on the association between EE and CVSD. Adeleke [2] conducted Entrepreneurship education skills possessed by business education students for sustainable development in Oyo State. The study's sample size comprised 120 Business Education students in total. The Entrepreneurship Education Skills and

Sustainable Development Questionnaire (ESDEQ) was used. The Cronbach Alpha reliability method was employed in the study to ascertain the instrument's internal consistency. The Statistical Package for Social Sciences (SPSS) was used to test the hypothesis of no significant difference at the probability of 0.05 level of significance at the relevant degree of freedom. The data collected for the study was analyzed using mean to answer the research questions and standard deviation to determine the closeness or not of the responses from the mean. The results of the analysis demonstrated that Oyo State Colleges of Education business education students had a minor proficiency in marketing and accounting for self-employment and sustainable development. However, it is worth noting that none of the authors cited in this study specifically addressed entrepreneurship skills and sustainable development: the moderator effect of education quality management. Additionally, previous studies did not emphasize the importance of creativity skills, financial literacy skills, and market research skills as essential variables for assessing entrepreneurship skills. The great variety in the geographic locations and regions covered by the available studies is another important gap that inspired this investigation. Therefore, the purpose of this study is to close the gaps left by previous researchers.

### **3. RELATED LITERATURE REVIEW**

#### **3.1 Entrepreneurship Skill**

Entrepreneurship skills are the aptitudes and attributes that allow people to spot opportunities, take measured risks, and add value through innovation and the launch of new businesses or projects [13]. Creative thinking, strategic thinking, problem-solving, resilience, adaptability, financial literacy, networking, and effective communication are some of these skills. To succeed in creating and running businesses, fostering innovation, and navigating the shifting economic landscape of today, people need to possess entrepreneurship skills. Entrepreneurial skills encompass the necessary skills that students need to initiate and establish a business [1]. Entrepreneurial skills can be assessed by evaluating abilities in communication, creativity, innovation, teamwork, collaboration, critical thinking, problem-solving, desirability,

feasibility, ICT literacy, social and cross-cultural understanding, learning and self-direction, management, and leadership, as well as flexibility and adaptability.

Entrepreneurship requires the ability to recognize business opportunities, grab them, amass resources, and carry out essential strategies. Highly motivated individuals who are willing to take calculated risks to achieve their objectives are also required [3]. Problem-solving, risk-taking, innovation, and critical thinking are all considered entrepreneurial skills. Students must become more practical, putting theory into practice, to develop the requisite business skills. As a result, youngsters gain drive, confidence, initiative, and creativity [4]. Entrepreneurship education is an organized method of imparting to people the abilities, know-how, and mindset required to launch, run, and expand prosperous enterprises. In this study, Entrepreneurship skills refer to creativity skills, financial literacy skills, and market research skills.

Creativity skills are tools for increasing the entrepreneurial potential and aptitude of individuals and organizations [5]. Nowadays, having originality is an important skill for job seekers. When someone is creative, they make an extra effort to handle non-routine tasks in a proactive, original, and inventive manner [6]. Creative student refers to imaginative students who question norms, assumptions, and the status quo while thinking critically and independently. Furthermore, creativity is the ability to devise a novel tool or strategy to solve a problem [7]. Individual students who lack imagination and invention may not prosper in a business environment. As a result, to remain relevant in the global economy, students must continually be innovative. According to Eldor and Harpaz [8], creativity is the ability to generate novel and practical ideas that stimulate innovation in goods, services, organizational processes, and procedures.

Financial literacy refers to managing one's financial situation by improving one's well-being and understanding consumption, saving, and investment [9]. Making the right decisions for sustainable development necessitates several skills, financial knowledge, attitudes, and behaviours, all of which are encompassed by the broad concept of financial literacy. Financial

literacy skills are becoming increasingly important in terms of social responsibility and accountability. Sanistasya et al et al. [9] discovered substantial correlations between financial literacy, gender, investment allowances, savings, and consumption. Financial literacy is defined as an advanced activity with the goals of developing comprehension of financial concepts, recognizing opportunities and risks associated with money, and assisting in making the best financial decisions possible [10]. A person's relationship with money and financial matters is represented in their financial literacy, which is an aspect of their financial attitude [35]. Financial literacy skill plays an important role in helping ensure the financial health and stability of individuals, families, enterprises, and national economies.

Market research skill is the capacity to methodically collect, evaluate, and decipher information about a particular market or sector [2]. Help with business strategy and decision-making, it entails recognizing and comprehending market trends, competitive environments, consumer behaviour, and other pertinent aspects. The ability to gather actionable insights that support product development, business growth, and marketing effectiveness requires proficiency in a variety of methodologies, including surveys, interviews, focus groups, and data analysis techniques. In today's fast-paced business world, expert decision-making, anticipating market shifts, and maintaining an advantage over rivals are all made possible by proficient market research abilities. It refers to the ability to acquire, evaluate, and interprets data about a market, including prospective clients, rivals, and market trends. entrepreneurs can make educated decisions about product development, marketing tactics, and general business operations by using this knowledge of customer needs, preferences, and behaviours.

### **3.2 Sustainable Development**

Sustainable is the idea that resources used by people now should be used in a way that will ensure effective utilization of it by future generations as well [11]. Sustainability in this sense refers to preserving people's current levels of economic, social, and environmental functioning while reducing environmental harm.

Sustainability can also be defined as enhancing human well-being while preserving the natural equilibrium of the environment. In the national and worldwide arena, sustainability also refers to a key development process that is worked on by various disciplines [12]. Development is the process of enhancing the population's standard of living while also strengthening economies' ability to function independently, which appears to be more complex and dependent on global integration [2]. it is the mobilizing of resources to improve society's welfare by providing social amenities and infrastructure. Development is a concept that aims to raise people's living standards while minimizing negative environmental effects and harming the planet's ecosystems. Sustainable development refers to continuous development or advancement that can last forever [13].

The concept of sustainable development is based on socioeconomic growth that respects the natural environment, fairly distributes existing resources, and considers the future. It focuses on the long-term use of resources to ensure a higher level of life for future generations [4]. The concept of sustainable development is important because it allows society to engage with the environment without jeopardizing future generations' resources. Sustainable development is the process of providing a method for the present generation to meet their needs without jeopardizing future generations' ability to do the same [1]. Aside from these socioeconomic development issues, Nigeria is also dealing with unemployment, insecurity, and poverty, all of which will impede progress toward social tolerance, environmental preservation and restoration, gender equity, peaceful and just societies, intergenerational equity, and natural resource conservation. As a result, there is a need to stress the importance of a well-functioning education that acts as a catalyst in pushing graduates to become self-sufficient. These are the educational ideas that entrepreneurship education seeks to promote. If current needs are satisfied without endangering the capacity of future generations to satisfy their own needs, then development is sustainable [2]. Sustainable development enables people to acquire the knowledge, values, and abilities necessary to engage in decisions about how they live their lives individually and collectively, locally and globally that will improve their quality of life now without endangering the planet Earth in the future [14].

### 3.3. Education Quality Management

Quality is defined as meeting the needs and expectations of the client or as their perception of a good or service that has reached a respectable level of perfection [15]. Generally, the best way to describe quality is conformance to requirements. The degree to which a product or service satisfies a set of predefined standards about the attributes that establish its worth in the market and its ability to fulfill the purpose for which it was intended is known as quality. Quality management provides a framework for constant improvement of organizational performance and raises stakeholder and student satisfaction. Additionally, it gives consumers and the organization self-confidence in their capacity to provide goods and services that consistently meet needs.

Education quality management is the process of effectively overseeing the teaching and learning process to maximize educational objectives while lowering effort and expense levels [16]. General, education quality management refers to the culmination of all initiatives taken by upper management and lower management alike to enhance education to act aptly at the appropriate moment to guarantee efficacy. Education quality management refers to the most efficient and accurate use of resources to raise the bar for educational products while requiring the least amount of work and expense to meet community, educational, and labour market demands. Education quality management in this study refers to curriculum relevancy, student engagement and safety school climate,

The curriculum includes materials to be used to improve the learning process as well as processes for assessing intended learning outcomes [16]. It is one of the documents that helps the school integrate its goals and objectives into teaching and learning. Curriculum relevancy describes how educational goals, objectives, content, and teaching strategies are modified to take into account students' needs and interests. It is a method of creating curriculum standards that are relevant to students' lives, take into account their varied origins, and develop skills that last a lifetime.

Student engagement refers to the emotional and temporal involvement that students have in their education, both within and outside of the classroom as well as the institutional rules and procedures that support and facilitate fruitful interactions [17]. Engagement is the process through which a student becomes aware and critically reflexive of the interconnectedness between school resources and the surrounding environment to effectively contribute to the attainment of educational goals [8]. It implies the level of effort that students put out in pursuit of learning objectives and intended results.

Safety school climate is an environment that is favourable to learning in which there are no external, internal, or environmental risks to the health and safety of workers or students, and where the infrastructure of the learning environment is deemed safe [16]. School climate safety refers to developing suitable attitudes and values as well as knowledge and abilities in the face of different hazards. A positive school climate cultivates inclusivity, support, respect, motivation, collaboration, and teamwork among all members of the school community.

## 4. THEORETICAL BACKGROUND

The theoretical contribution of this study is based on Becker's [18] theory of human capital (HC). He posits that human beings can increase their productive capacity through greater education and skills training. According to the human capital idea, people can become more productive by learning new skills and acquiring more education. The knowledge, abilities, and well-being that individuals acquire allow them to reach their full potential as contributing members of society. According to Becker, education primarily increases productivity by imparting knowledge, skills, and a problem-solving methodology.

Furthermore, Becker's theories are widely accepted in the literature on employee development and learning today since HC theory supports the notion that employees can acquire new knowledge and skills by investing in learning, that is, in education or training. Employee and company performance are significantly influenced by one's education and

training. A significant body of recent research on training and development reveals a favourable correlation between firm-level performance [19-24]. Mason and Bishop [24], for instance, looked at how the UK recession affected adult education. Employers decreased off-the-job training during the recession, according to the report. However, more focused on-the-job training to address the demands for skill enhancement helped to mitigate some of the effects of such skill level reductions. However, the authors contend that failing to improve adult workers' abilities during the crisis is likely to hurt future productivity and competitiveness.

The application of HC theory in an educational setting suggests that students who receive entrepreneurial training will become more skilled and productive by earning more money for sustainable growth than individuals with lesser skill levels. Based on this notion, more productive people will earn more money and have greater employment opportunities. Consequently, investment in human capital leads to the generation of new ideas, financial literacy, and market research skills that in turn promote sustainable development and the creation of physical capital.

## 5. RESEARCH HYPOTHESES

The following hypotheses were created and put to the test:

- H1: There is no significant relationship between creativity skills and sustainable development
- H2: There is no significant relationship between financial literacy skills and sustainable development
- H3: There is no significant relationship between market research skills and sustainable development
- H4: Education quality management moderates the relationship between creativity skills and sustainable development
- H5: Education quality management moderates the relationship between financial literacy skills and sustainable development
- H6: Education quality management moderates the relationship between market research skills and sustainable development.

## 6. METHODOLOGY

### 6.1 Research Design

The quantitative technique was determined to be most suitable due to the nature of the study and its main aims, which were to evaluate the relationship between creativity skills, financial literacy skills, and market research skills, with SD based on the judgments of academic staff and students. Descriptive and correlational research designs were also employed in this study to determine the statistical relationships between the variables (ES and SD components). Because statistics is a mathematical science. Thus, scientists view the quantitative approach as logical and impartial [25].

### 6.2 Population and Sampling Procedure

This study's target population consisted of all the lecturers and business education students at the public universities in Kwara State. According to Mia et al. [26], 220 respondents are required as the minimum number of data samples for the SmartPLS 3.0 analytic methodologies. Out of the 352 respondents who participated in this study, 321 correctly completed the data. A few surveys were thrown out during data cleansing because they were deemed inappropriate for use. The questionnaire was filled out online using Google Forms on the research variables.

### 6.3 Research Instrument

Three independent factors (market research skills, financial literacy abilities, and creativity skills), one moderator (education quality management), and one dependent variable (SD) make up this study. A 46-item question was used in this study. A 5-point Likert scale was employed to ensure the validity and reliability of the items. The Likert scale, with 1 denoting strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree, was employed in this data-gathering approach. specifically, creativity skill was measured with 7 items adapted from Abdullahi's [4]. Financial literacy skills are assessed with 6 items and market research skills with 7 items adapted from Wahyono & Hutahayon [27]. Furthermore, the measurement of education quality management using 19 items [16]. Sustainable development measurement with 7 items was adapted from Abdullahi et al. [5].

## 6.4 Method of Gathering Data

Google Forms is used to disseminate online surveys for this study to participants, who then react to questions using WhatsApp. The introduction segment provided information to all participants regarding the study's goal and methodology. The study was entirely voluntary, and participants were free to leave at any time with no explanation. Also, the participants' data were kept private and confidential and their identities remained anonymous. The gathered data were imported into IBM SPSS 22 for validity, reliability, and data cleaning. The statistical analysis SmartPLS 3.0 was utilized to analyze the data. To ascertain the impact of an exogenous variable (independent) on an endogenous variable (dependent), the path analysis technique was utilized.

## 6.5 Data Analysis

Following data collection, the information is entered into SPSS, a statistical tool, and the PLS-SEM technique is applied using SmartPLS 3.0 software. This study employed a variety of statistical techniques, including partial least squares (PLS-SEM) with the SmartPLS 3.0 programme, to better analyze the data to meet the study's purpose. PLSSEM with SmartPLS 3.0 was selected as an effective method to test the hypotheses based on the objectives and questions of the current study. The goal of the reflective measurement model evaluation is to

validate the validity and reliability of construct measures, hence providing evidence that the inclusion of these measures in the path model is suitable. Convergent validity, indicator reliability, discriminant validity, and composite reliability are the primary prerequisites for the reflective measurement approach. Reflective constructs can be used with PLS-SEM studies if all of these requirements are satisfied [28]. In addition, evaluation of the structural model includes effect size ( $f^2$ ), path coefficients, and coefficient of determination ( $R^2$ ) was done. As a result, Table 1 shows the indicators and suggested thresholds for the measurement and structure modeling tests used to describe the two stages of PLSSEM modeling.

## 7. RESULT

### 7.1 Evaluation of Measurement Model

Construct reliability was assessed using Cronbach's Alpha and Composite Reliability (CR). Convergent validity and construct reliability are shown for each concept in Table 1. The Cronbach alpha and CR scores for each construct are higher than the recommended cutoff point of 0.700 suggested by [29]. Convergent validity is supported by the Average Variance Extracted (AVE) for the constructs is more than 0.500 for the whole sample [28]. Furthermore, no factor loading was eliminated because Table 1 shows that all constructs had AVE values that were above 0.5, which is a rationally high value.

**Table 1.** Construct Reliability and Validity, ( $p < 0.01$ )

Construct	Items	Outer Loading	Cronbach's Alpha ( $\geq 0.70$ )	Composite Reliability	Average Variance Extracted ( $\geq 0.50$ )
	CIS1	0.865			
	CIS2	0.733			
<b>Creativity skills</b>	CIS3	0.520	0.812	0.864	0.585
	CIS4	0.786			
	CIS5	0.737			
	CIS6	0.660			
	CIS7	0.941			
	EQM1	0.472			
	EQM2	0.756			
	EQM3	0.791			
	EQM4	0.764			
	EQM5	0.794			
	EQM6	0.850			
	EQM7	0.553			
	EQM8	0.737			
<b>Education quality management</b>	EQM9	0.664	0.930	0.939	0.556
	EQM10	0.737			

	EQM11	0.692			
	EQM12	0.713			
	EQM13	0.449			
	EQM14	0.733			
	EQM15	0.645			
	EQM16	0.628			
	EQM17	0.682			
	EQM18	0.455			
	EQM19	0.714			
	FLS1	0.770			
	FLS2	0.547			
Financial literacy skill	FLS3	0.722	0.767	0.837	0.570
	FLS4	0.692			
	FLS5	0.833			
	FLS6	0.840			
	MRS1	0.641			
	MRS2	0.659			
	MRS3	0.850			
Market research skill	MRS4	0.767	0.864	0.895	0.552
	MRS5	0.689			
	MRS6	0.833			
	MRS7	0.737			
	SD1	0.820			
	SD2	0.810			
	SD3	0.425			
Sustainable development	SD4	0.750	0.816	0.864	0.587
	SD5	0.814			
	SD6	0.643			
	SD7	0.508			

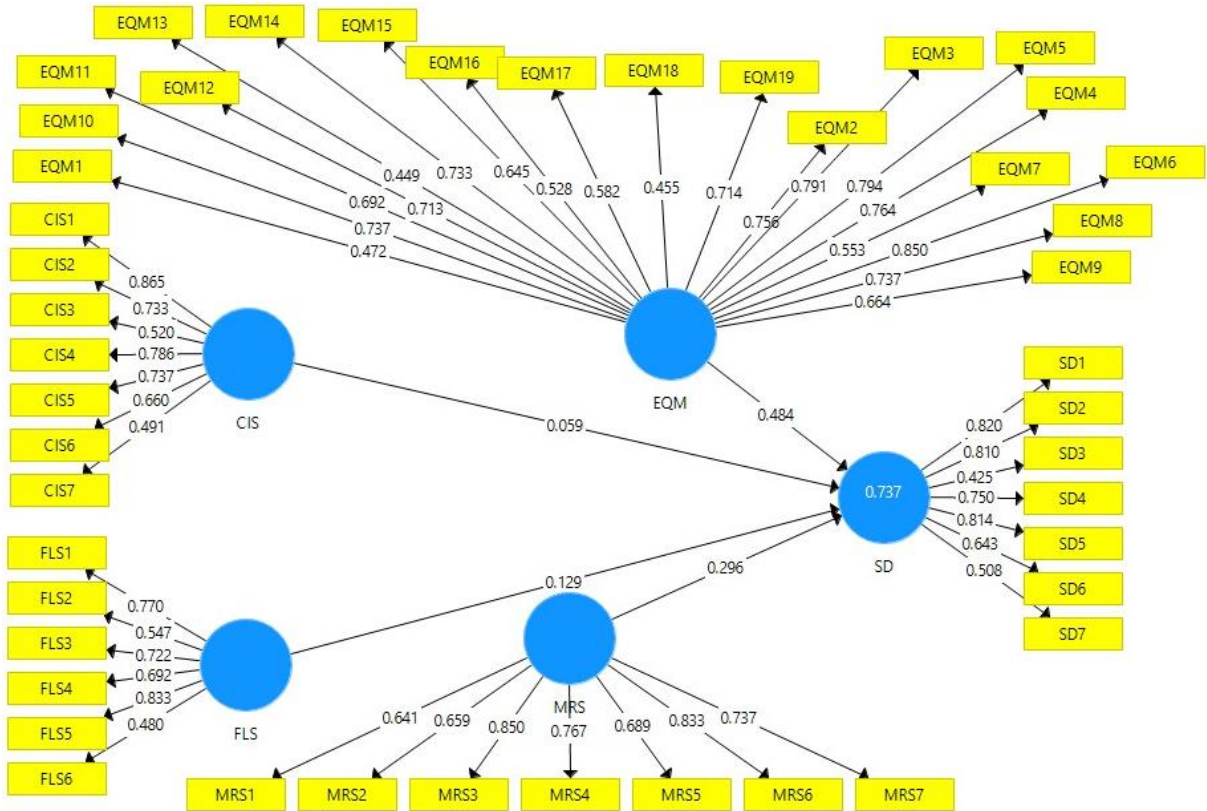


Fig. 1. Construct Measurement Model.



Additionally, the Fornell and Lacker criteria and the HTMT were used to assess the discriminant validity of the construct. The HTMT criteria are considered dependable for ascertaining discriminant validity because they calculate the geometric mean of the average correlations between indicators measuring the same construct and the mean of all correlations between indicators measuring different constructs [30]. The HTMT values are shown in Table 2. The variables are not the same if the values of this measure are less than 0.85. Additionally, since the HTMT is less than 0.85, it can be said that the data has been obtained correctly and does not have any problems with discriminating or convergent validity.

The most recent criteria for evaluating discriminant validity are called HTMT, and it is predicated on both internal and exterior correlation.

**Table 2.** HTMT values of the construct.

	CIS	EQM	FLS	MRS	SD
CIS					
EQM	0.819				
FLS	1.038	0.778			
MRS	0.716	0.768	0.638		
SD	0.861	0.911	0.785	0.842	

To assess comprehensive discriminant validity, the Fornell and Lacker criterion was also examined in the second stage. In this strategy, the diagonal values should be higher than the below-associated values. The diagonals show the square root of the AVEs, which should be larger than the correlation between their variables. The average value of the following factors is 0.765 for creativity, 0.746 for education quality management, 0.755 for financial literacy, 0.743 for market research, and 0.766 for sustainable development. Because the diagonal values in Table 3 are larger than their corresponding values, discriminant validity is maintained and the standards set out by Fornell and Lacker are met.

**Table 3.** Fornell and Lacker criterion.

	CIS	EQM	FLS	MRS	SD
CIS	<b>0.765</b>				
EQM	0.727	<b>0.746</b>			
FLS	0.611	0.660	<b>0.755</b>		
MRS	0.606	0.685	0.660	<b>0.743</b>	
SD	0.704	0.615	0.685	0.733	<b>0.766</b>

Note(s): The diagonal is the square root of AVE, while the off-diagonal numbers are the correlations between latent variables.

## 7.2 Assessing the Structural Model

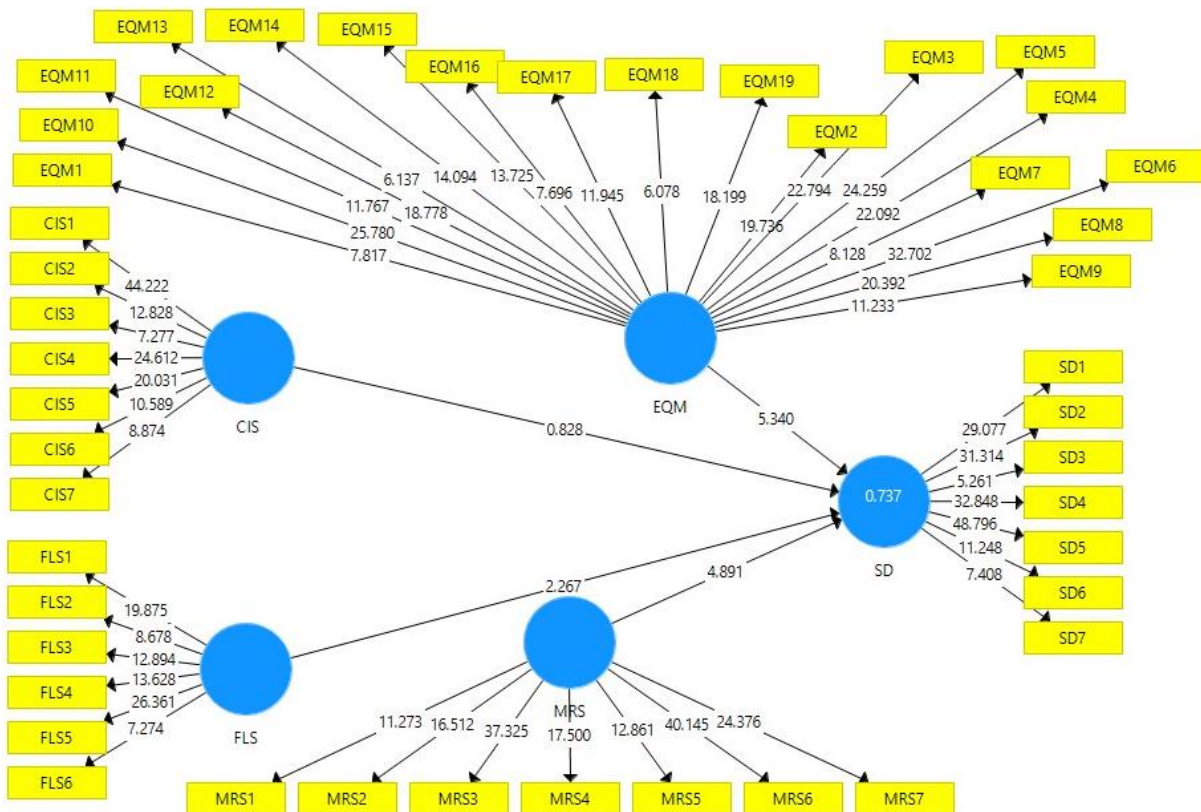
The significant hypothesis test of bootstrapping of 5000 with the standardized path coefficient, t-value, and hypothesis test was used to determine the path coefficient of the model structure. Figure 2 and Table 4 demonstrate the results of the study's structural model. Also, the effect of moderation analysis was determined.

## 7.3 Hypothesis Analysis

The results from Table 4 indicate that all three direct hypotheses are supported. Specifically, creativity skills have a significant and positive relationship with SD with (P-value = 0.00, T = 5.340, and  $\beta$  = 0.484). Hence, the hypothesis (H1) was supported. In addition, there is a strong positive correlation between financial literacy and sustainable development with (P-value = 0.023, T = 2.267, and  $\beta$  = 0.129). Hence, the hypothesis (H2) was supported. Likewise, there is a strong positive relationship between market research skills and sustainable development with (P values of 0.00, T = 4.891, and  $\beta$  = 0.296, respectively). Hence, the hypothesis (H3) was supported. As a result, the three direct hypotheses H1, H2, and H3, were supported. The results show that all the constructs have a significant impact on and contribute to sustainable development, with  $\beta$  having a value greater than the cut-off values (0.10). The dependent variable logically depends on the independent factors, as indicated by the construct t-statistics, which are bigger than the recommended value of 1.96, and the p-value, which is less than 0.05. The results conclude that the data affirmatively supported the confidence of the hypothesis.

**Table 4** Findings of hypotheses testing (Direct relationship).

Hypotheses	Path	Beta	2.5%	97.5%	T-value	P-value	Decision
H1	CIS > SD	0.484	0.078	0.202	5.340	0.000	Supported
H2	FLS > SD	0.129	0.017	0.237	2.267	0.023	Supported
H3	MRS > SD	0.296	0.196	0.432	4.891	0.000	Supported



**Fig. 2.** Structural Model of the Study (Bootstrapping @5000).

#### 7.4 Evaluation of the R-square (direct effect)

The single endogenous latent variable in the current investigation is SD. The adjusted R-square value, as presented in Table 5, suggests that the sum of the factors accounts for 71% of the changes in the independent variable. Accordingly, around 71% of the changes in SD may be explained by creativity skills, financial literacy, and market research skills. To determine the path coefficient of the model structure, the significant hypothesis test of bootstrapping of 5000 with the standardized path coefficient, t-value, and hypothesis test was employed. The findings of the study's structural model are displayed in Figure 2 and Table 5.

**Tale 5.** Result of R-square (direct effect).

	R-square	R-square adjusted
SD	0.719	0.713

#### 7.5 Evaluation of Path's Effect Size ( $f^2$ )

The value of ( $f^2$ ) measured the path's effect size. According to Hair et al. [31], values of 0.02, 0.15, and 0.35 indicate weak, medium, and

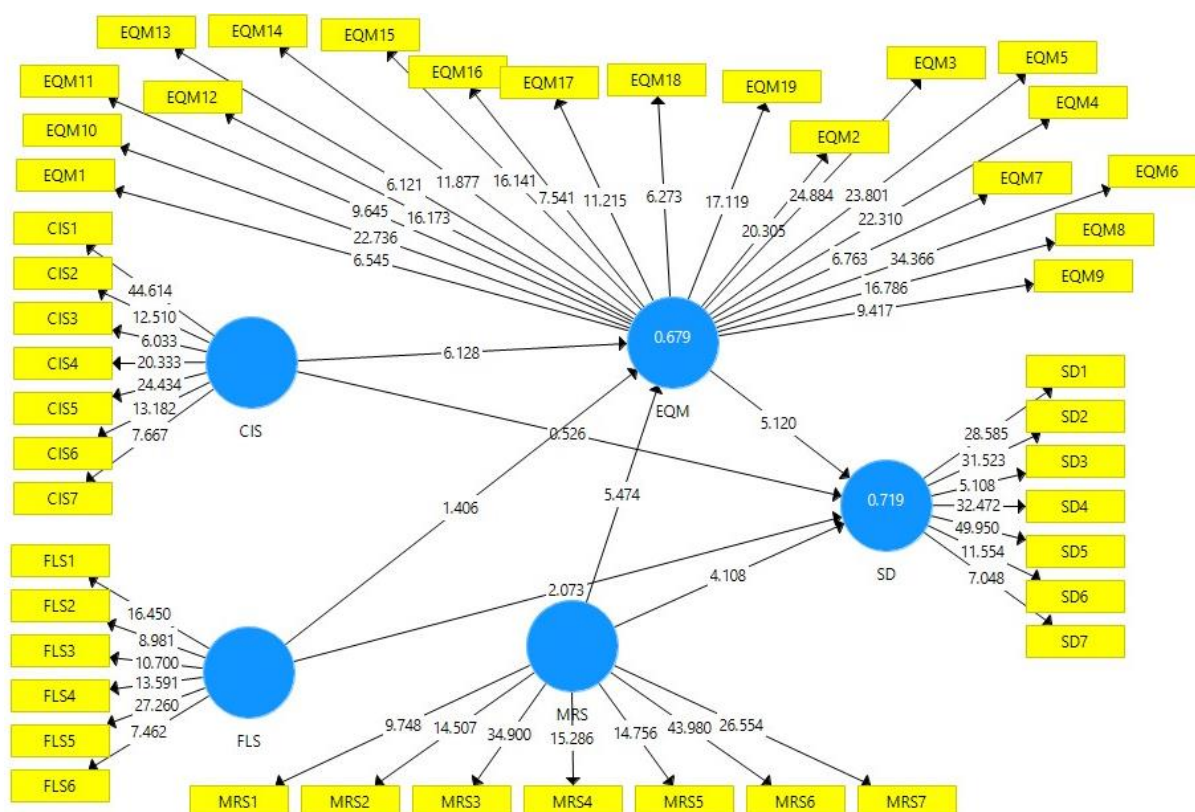
large effects, respectively. Table 6 displays the values of ( $f^2$ ).

**Table 6.**  $f^2$  Index for Structural Model Analysis using PLS-SEM.

	$F^2$	Effect Size
Creativity skills	0.314	Large
Financial literacy skill	0.021	Weak
Market research skill	0.169	Medium

#### 7.6 Evaluation Moderation Analysis (Significance of Indirect Relationships)

The moderating effect of education quality management on the relationship between creativity skills, financial literacy skills, and market research skills on sustainable development is investigated in this study. sustainable development was treated as an endogenous variable in the regression analysis, while creativity skills, financial literacy skills, and market research skills were treated as external variables. As a result, the moderating influence of education quality management value on the connection between external variables and sustainable development is shown in Figure 3 and Table 7.



**Fig. 3.** Structural Model of the Study (Bootstrapping @5000).

In the structural model of the current analysis, the H4, H5, and H6 hypotheses were put forward in this study's structural model to show how education quality management (EQM) affects the relationships between ES variables (creativity, financial literacy, and market research) and SD. The moderation analysis was assessed based on the standards of P-values, t-values, and path coefficients. the P-value of the H4 was less than 0.05. That means the fourth hypothesis is statistically significant. According to Table 7 below, out of the three hypotheses tested, two were found to have statistically insignificant results. The significant moderating hypothesis (H4) is that education quality management

(EQM) moderates the positive relationship between creativity skills and SD (creativity skills -> SD). This association was statistically significant where  $p = 0.000$ , which is less than the standardized value of 0.05, and the  $t$ -value = 5.340, which is larger than the standardized value of 1.96, and the path coefficient  $\beta = 0.443$ . The next moderating hypothesis (H5) is not supported where  $p = 0.16$  is larger than 0.05,  $t$ -value = 2.267, and  $\beta = 0.112$ . Furthermore, hypothesis (H6) was significant with  $p = 0.000$  greater than 0.05, a  $t$ -value of 4.891 greater than 1.96 (acceptable standard), and  $\beta = -0.372$ . Thus, only H4 and H6 were supported, while H5 was not supported

**Table 7.** Moderating Effect (Path Coefficient Results)).

Hypotheses	Path	Beta	2.5%	97.5%	T-value	P-value	Decision
H4	CIS*EQM_> SD	0.443	0.308	0.586	5.340	0.00	Supported
H5	FLS*EQM_> SD	0.112	-0.039	0.268	2.267	0.16	Not Supported
H6	MRS*EQM_> SD	0.372	0.240	0.507	4.891	0.00	Supported

## 8. DISCUSSION

The results of the first objective are to determine how entrepreneurial skills specifically (creativity, financial literacy, and market research skills) relate to sustainable

development in public universities in Kwara State. Furthermore, this study was conducted to ascertain whether EQM influenced the relationship between ES and SD. Overall, the results of the direct relationship showed that SD at the public universities of Kwara State is

significantly correlated with creativity, financial literacy skills, and market research skills. The findings showed a strong correlation between creativity skills and SD. As a result, the initial hypothesis (H1) was supported. In line with the findings of this study, previous studies by Obed et al., [32]; Bosman and Fernhaber, [33]; Abdullahi [4]; Wamsler et al., [34]; Eldor and Harpaz [8] have shown that creativity skills positively correlate with SD. Additionally, creativity fosters organizational innovation and growth, which is crucial for enhancing sustainability. Furthermore, the second hypothesis (H2) demonstrates that SD in public colleges is significantly correlated with financial literacy skills. H2 was therefore supported. The present hypothesis' outcome is in line with the conclusions of earlier studies, including Ermawati et al. [36] discovered that workers' financial performance is impacted by their level of financial literacy. Wahyono and Hutahayan [27] assert that financial literacy improves small- and medium-sized businesses' operational performance and sustainable development. Students who possess financial literacy skills are more adept at recognizing and reacting to shifts in the business and economic landscapes. They may also employ financial planning to make wise choices that will enhance their prospects for sustained success. Financial plans can be made by financially savvy students to ensure the long-term viability of their organization [9]. Furthermore, the third hypothesis, that there is a direct relationship between market research skill and SD in Kwara State, Nigeria public universities, was supported. This result of the market research skill and SD relationship is it aligns with the results of other studies, like Wahyono & Hutahayan, [27]; Kalu, & Peace [7].

The result of the second objective is to determine whether EQM moderates the correlation between (creativity skills, financial literacy skills, & market research skills) and SD. The H4 results for the first indirect relationship of the moderator EQM revealed that the creativity skills showed a strong relationship with SD with the influence of EQM as an intervening variable. Some literature discusses the importance of education quality management (EQM) in assisting and promoting sustainable development, according to Eldor and Harpaz [8]. Moreover, it is widely accepted that education quality management is an

important element that has a vital influence on sustainable development. Also, H6 is supported. On the other hand, H5 is not supported. Consequently, the role of the EQM as a moderator in the link between financial literacy skills with SD is not important. One of the main reasons why EQM doesn't have much of an effect on financial literacy skill relationships is that it isn't encouraged in public universities and there is not a regular system for evaluating student's performance that gives the right kind of feedback [27].

## **9. LIMITATIONS AND CONTRIBUTION OF THE STUDY**

This research expands on previously acquired information in the ES and SD. Academics, organizations, and institutions have focused more on ES and other elements that can enhance SD in an organization. Numerous actions can be taken to promote SD in developing nations, especially in public universities in Nigeria, in light of the study's findings. This study can also serve as a foundation for further research in the increasingly expanding fields of ES and SD. This study has contributed much to the literature by combining several diverse factors. Though earlier studies have validated ES and EQM as important factors for SD (Jermsittiparsert, [15].; Abdullahi [5]; Tarrant et al. [17]; [1]) this study is a new attempt to demonstrate that ES is associated with the SD process in the educational industry in Nigeria. Therefore, the current study provides a contemporary viewpoint on SD research that supports academics and practitioners in addressing the issues of making SD an ongoing and efficient process. This study takes into cognizance the impact of entrepreneurship skills (creativity skills, financial literacy skills, and market research skills) on sustainability in Nigeria. In light of this, this study contributes to the already existing body of knowledge on entrepreneurial education. It emphasizes how crucial innovative and creative entrepreneurial skills are to creating jobs, making effective use of resources, and advancing technical advancements. Additionally, it offers additional insight into the educational policies within Nigeria's educational system while suggesting actions that could be taken to enhance the influence of entrepreneurial skills on the country's sustainable development.

## 10. RECOMENDATIOS AND CONCLUSION

This study highlights the role that entrepreneurship skills play in the development and progress of emerging nations, including Nigeria. Therefore, the Nigerian government and other pertinent stakeholders should ensure that educational programmes at all learning levels are relevant to give graduates and young people the skills they need to enter the successful field of creative entrepreneurship. To encourage productivity and quality, the government should also work with financial institutions to support and encourage recognizable student entrepreneurs. The empirical study improved the correlations between several variable factors. After the questionnaires were checked and found to be reliable, 321 academic staff members and students from Kwara State public universities provided the information that was needed. The SmartPLS 3.0 program was used to analyze the data after collection. This procedure showed measurement and structural model implementation. The statistical results of the study and the outcomes made sense in light of previous studies. The first main goal of this study is to test the relationship between Entrepreneurial skills (creativity skills, financial literacy skills, & market research skills), and SD, which hasn't been done before using HC theory. The second goal is to look at how EQM affects the indirect link between ES (creativity, financial literacy, & market research) and SD in public universities. Based on the findings, it has been determined that effective entrepreneurial skills can help sustainable development. In conclusion, education policymakers and educators need to constantly research, supervise, and create new programmes to stay up to date with developments in the field of education. This is crucial for both individuals and organisations to succeed.

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