## EMERGING TECHNOLOGIES AS PANACEA FOR ENTERPRENEUNAL SKILLS AND DEVELOPMENT OF SCIENCE STUDENTS: A COUNSELING PERSPECTIVE IN AKWA IBOM STATE

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#### ABSTRACT

The study assessed emerging technologies: the unique role enhancing entrepreneurial skills and development among science student in Akwa Ibom State. The impact of emerging technologies on their educational journey and entrepreneurial aspirations, stakeholders can gain valuable insights into how best to support and empower this next generation of innovators and leaders (Adebayo, 2020). The convergence of science education and technology holds immense potential for driving sustainable development and fostering a culture of innovation within Akwa Ibom State. As science students engage with cutting-edge tools and methodologies, they not only expand their knowledge horizons but also cultivate essential skills such as critical thinking, problem-solving, and adaptability. Moreover, the integration of entrepreneurial elements into their educational curriculum enables them to envision and pursue creative solutions to real-world challenges, thereby laying the groundwork for future success in both academic and professional spheres. Counselors play a critical role in promoting the integration of emerging technologies for entrepreneurial skills and development. Counselors act as facilitators in incorporating emerging technologies into entrepreneurship education. Counselors serve as scouts, identifying and disseminating information about emerging technologies that are shaping the entrepreneurial landscape. Counselors contribute to the cultivation of an entrepreneurial mindset by emphasizing the importance of adaptability and innovation in the face of technological advancements. On this basis it was concluded that the integration of emerging technologies within science education in Akwa Ibom State has proven to be instrumental in fostering the development of entrepreneurial skills among students. Through the utilization of cutting-edge tools and resources, science students are not only equipped with technical proficiency but also gain valuable insights into innovation, problem-solving, and adaptability crucial for entrepreneurial success. It was recommended that science students in Akwa Ibom State should embrace emerging technologies to cultivate entrepreneurial skills crucial for future success.

## KEYWORDS: Emerging Technologies, Enterpreneunal, Skills Development, Science Students, Counseling Perspective and Akwa Ibom State

### INTRODUCTION

In the dynamic landscape of contemporary society, the integration of emerging technologies is reshaping various facets of human existence, from communication to commerce and beyond. Particularly in the realm of education, the infusion of technological innovations holds significant promise, offering novel avenues for enhancing learning experiences and skill acquisition. In the state of Akwa Ibom, Nigeria, where a burgeoning population of science students aspires to navigate the intricacies of the modern technological era, emerging technologies stands as a pivotal endeavor. Akwa Ibom State, located in the southern region of Nigeria, boasts a rich cultural heritage and a rapidly evolving economic landscape.

According to Ezeuduji andEbong (2019), the importance of nurturing a skilled workforce equipped to harness the opportunities presented by emerging technologies cannot be overstated. Science students, in particular, represent a vital demographic poised to contribute significantly to the state's socio-economic advancement. By evaluating the impact of emerging technologies on their educational journey and entrepreneurial aspirations, stakeholders can gain valuable insights into how best to support and empower this next generation of innovators and leaders (Adebayo, 2020). The convergence of science education and technology holds immense potential for driving sustainable development and fostering a culture of innovation within Akwa Ibom State. As science students engage with cutting-edge tools and methodologies, they not only expand their knowledge horizons but also cultivate essential skills such as critical thinking, problem solving, and adaptability. Moreover, the integration of entrepreneurial elements into their educational curriculum enables them to envision and pursue creative solutions to realworld challenges, thereby laying the groundwork for future success in both academic and professional spheres.

According to Onuoha andUfot (2019), emerging technologies offers a unique avenue for interdisciplinary collaboration and knowledge exchange. In Akwa Ibom State, where diverse communities coexist, harnessing the collective expertise of scientists, engineers, entrepreneurs, and policymakers becomes essential for driving holistic development initiatives. By creating platforms for dialogue and collaboration, the process not only facilitates the identification of promising technologies but also fosters a culture of innovation and collaboration that transcends disciplinary boundaries.

#### STATEMENT OF PROBLEM

The emergence of new technologies presents a unique opportunity to enhance entrepreneurial skills and foster development among science students in Akwa Ibom State. However, there is a lack of comprehensive understanding regarding how these technologies can be effectively leveraged to empower students in the realm of entrepreneurship. This knowledge gap inhibits the maximization of emerging technologies' potential to cultivate innovation, creativity, and business acumen among science students, thereby impeding the overall socioeconomic development of the region.

## PURPOSE OF THE STUDY

- To find out the extent of utilization of emerging technologies among science students in Akwa Ibom State.
- To examine the roles of emerging technology in enhancing entrepreneurial skills of science students Akwa Ibom State.

## **RESEARCH QUESTIONS**

- What is the extent of utilization of emerging technologies among science students in Akwa Ibom State?
- What are the roles of emerging technology in enhancing entrepreneurial skills of science students Akwa Ibom State?

## CONCEPT OF EMERGING TECHNOLOGIES

Innovative breakthroughs at the vanguard of development, like artificial intelligence and quantum computing, are referred to as emerging technologies. They provide intriguing possibilities and revolutionary implications on different sectors, and they have the capacity to revolutionize industries and improve our lives. Pawlan (2023) highlighted that these entities are distinguished by their disruptive qualities and their capacity to bring about revolutionary changes across multiple industries. A vast array of industries is included in the category of emerging technologies, such as tech, AI, IoT, virtual reality, automation, and more. Emerging technologies are expanding fields of technical innovation that draw investment due to their potential for disruptive, topical, or secular growth (Pitch Book blog, 2021).

In today's world of rapid change, technological advancements are producing a wave of innovations that have the potential to completely transform our way of life. The forefront of this change is emerging technologies, which stand out for their uniqueness, rapid growth, and great impact potential. These relatively new technologies have great potential to transform industries, address global issues, and change the course of human history (Aitechlearn, 2023). The advent of novel technologies is attracting significant and increasing attention, particularly from the standpoint of policy-making.

# TYPES OF EMERGING TECHNOLOGIES AND THEIR ROLES IN ENHANCING ENTREPRENEURIAL SKILLS AND DEVELOPMENT OF SCIENCE STUDENTS

### • Artificial Intelligence (AI):

The simulation of human intelligence processes by machines, particularly computer systems, is known as artificial intelligence. These procedures include self-correction and learning, which involve acquiring knowledge and following usage guidelines. Particularly in the field of scientific education, artificial intelligence (AI) technologies like automated assessment and intelligent tutoring systems may offer fresh perspectives on how to create learning environments that are both personally relevant and stimulating, ultimately boosting students' enthusiasm in the subject (Qat Global, 2023). AI plays an essential role in facilitating creative thinking and innovativeness. Artificial intelligence analyses vast amounts of data to identify business trends and patterns and provides comprehensive insights to identify potential customers, understand market demands, and tailor their products or services accordingly. AI also enables predictive analysis, helping entrepreneurs anticipate market trends and customer needs (Abid et al., 2022).

According to Bassey and Owushi (2023), artificial intelligence is plainly present in almost every aspect of human civilization. It has brought about changes and new competitive advantages for a number of institutions and service businesses.

AI supports virtual prototyping and simulation, allowing students to test their business concepts in a risk-free environment. Entrepreneurs can refine their ideas, strategies, and operations before launching, minimizing potential failures and maximizing success. AI also plays a crucial role in improving communication, fostering teamwork, and ensuring that science students can effectively work together to bring their ideas to fruition. AI helps optimize resource allocation, ensuring that science students can manage their time, finances, and other resources efficiently. AI enables continuous learning by providing access to up-to-date information and resources (Abid et al., 2022). Science students can stay informed about the latest developments in their field, fostering a culture of lifelong learning and adaptability in the entrepreneurial landscape.

#### • Computing Power:

With practically every gadget and appliance in the digital age being computerized, computing power has already cemented its place. In all nations, this industry accounts for the highest share of employment. Students can take a more active part in the process and become its focal point by using computers and other devices in conjunction with digital tools, which makes it more motivating and significant (Abid, 2022). Computing power analyses vast datasets swiftly. This capability is crucial for extracting valuable insights from market trends, consumer behaviour, and industry patterns. High computing power allows students to engage in realistic simulations and modelling exercises. This is particularly valuable for testing entrepreneurial ideas, refining business strategies, and understanding the potential outcomes of various decisions. Efficient computing power ensures rapid and reliable data storage and retrieval. This capability is crucial for entrepreneurs who need instant access to information for strategic decision-making. Science students can manage and analyse large datasets, fostering a culture of data-driven entrepreneurship. High computing power facilitates collaborative technologies, allowing science students to work seamlessly with team members, partners, and mentors. Robust computing power is essential for implementing effective cybersecurity measures (Faster Capital, 2023).

#### • Quantum Computing:

Among the amazing technologies is quantum computing, a type of computer that makes use of quantum phenomena such as quantum entanglement and superposition. The development of new vaccinations and stopping the spread of the corona virus are two other uses of quantum computer technology. The potential of quantum computing in education to facilitate individualized learning experiences is among its most exciting features (Athanasios, 2023). Quantum computers play a major role in solving complex optimization problems that are beyond the capabilities of classical computers. Quantum computing can process and analyses vast datasets exponentially faster than classical computers; this capability is crucial for science students in extracting deeper insights from large volumes of data, enabling more informed decision-making and strategic planning for their entrepreneurial ventures. Quantum simulations can accelerate the discovery of new drugs and materials, fostering innovation in these industries. Entrepreneurs can leverage quantum machine learning for tasks such as pattern recognition and predictive analytics, and science students can gain skills at the forefront of this intersection between quantum computing and AI. Quantum computing startups and initiatives are emerging, providing opportunities for students to engage in groundbreaking research and development and fostering a culture of innovation (Baljeet, 2023).

## • Virtual Reality (VR):

Virtual reality has great potential for teaching and learning because it gives users a very immersive experiential learning environment. Since virtual reality allows the use of multiple senses (touch, sound, and sight), it improves the activeness and mental alertness of both students and educators. Virtual reality has the potential to transform education by providing immersive and interactive experiences that can enhance learning outcomes (Parvez, 2023). VR plays a unique role in providing immersive and experiential learning opportunities. Virtual reality allows students to interact with lifelike business scenarios, fostering a deeper understanding of various entrepreneurial concepts. This interactive learning approach has the capability to enhance students' ability to apply theoretical knowledge to practical situations. Students can virtually explore market dynamics, manage resources, and navigate the intricacies of starting and running a business, gaining valuable insights that go beyond traditional classroom methods. Virtual reality provides a platform for students to practice and enhance their pitching and presentation skills (Manuel et al., 2023). Through simulated environments, students can refine their ability to communicate ideas, present business plans, and handle questions from potential investors. Feedback from VR experiences can be used to identify areas for improvement, ensuring that students develop effective communication skills crucial for entrepreneurial success. VR transcends geographical boundaries, offering students the opportunity to explore global markets and diverse business environments. By engaging in VR simulations of international business scenarios, students can adapt to various cultural nuances and market dynamics, preparing them for the challenges of a globalized business world.

### • Internet of Things (IoT):

The Internet of Things is a network of physical items, or "things," that have sensors, software, and other technologies implanted in them that allow them to communicate and share data with other systems and devices over the Internet. It makes room for students to be engaged and given more effective instruction by using Internet of Things (IoT) devices to create interactive learning experiences (Zenmile, 2023).

Cyber security might not seem like an emerging new technology trend, given that it has been around for a while, but it is evolving just as other technologies are. As a field of its own, it has expanded a lot in recent years. There are so many reasons to study cyber security, such as solving complex technical issues, having a stimulating job, high salary pay, and many more (Bay Atlantic University, 2023). IoT devices generate a wealth of real-time data, offering science students the opportunity to analyse and interpret information on market trends, consumer behaviour, and industry dynamics. This hands-on experience with data analytics enhances entrepreneur-oriented students' decision-making skills. IoT promotes connectivity between devices, enabling seamless communication and automation. Science students can leverage this interconnectedness to create and manage systems that enhance efficiency and productivity in a business environment. IoT is transforming healthcare, and science students can benefit from its applications in medical devices, remote patient monitoring, and health data analytics. Exposure to IoT-driven innovations in healthcare equips students with the skills to explore opportunities in the rapidly evolving health-tech entrepreneurial landscape. By understanding how IoT contributes to the healthcare sector, science students can envision and develop solutions that address real-world challenges, fostering entrepreneurial thinking.

### • Cyber Security:

Entrepreneurship often involves the development of intellectual property (IP), including innovative ideas, products, and technologies. Understanding cybersecurity measures is essential for safeguarding these assets from cyber threats such as data breaches, theft, or unauthorized access. Cybersecurity plays a noticeable role in implementing measures to protect intellectual property, fostering a secure environment for entrepreneurial endeavors. Entrepreneurs face a myriad of cyber threats, ranging from phishing attacks to ransomware. Cybersecurity expertise helps to establish and maintain trust with stakeholders, including customers, investors, and business partners.

#### BARRIERS TO SUCCESS OF EMERGING TECHNOLOGIES

Barriers to the success of emerging technologies encompass various challenges that can impede the adoption, implementation, and advancement of new technological innovations. These barriers can stem from technical, economic, social, and regulatory factors, among others. One significant barrier is the high cost of research, development, and initial deployment associated with emerging technologies. This financial burden can hinder smaller companies or startups from entering the market, limiting competition and innovation. Additionally, uncertain returns on investment and long payback periods can discourage investors and stakeholders from supporting emerging technologies. Furthermore, technological barriers such as interoperability issues and compatibility with existing infrastructure can slow down the adoption of new technologies. For instance, emerging technologies like block chain or the Internet of Things (IoT) may struggle to integrate with legacy systems, leading to resistance from organizations reluctant to overhaul their current operations. Moreover, concerns about cybersecurity and data privacy can pose significant barriers to the adoption of emerging technologies, especially in sectors like healthcare and finance, where sensitive information is involved. Without robust security measures and regulatory frameworks in place, stakeholders may be hesitant to embrace new technologies.

Social and cultural factors also play a critical role in determining the success of emerging technologies. Resistance to change, fear of job displacement, and ethical concerns can hinder the widespread acceptance and implementation of innovations. For example, the introduction of automation and artificial intelligence (AI) in industries like manufacturing and transportation may face opposition from labour unions and workers fearing unemployment. Addressing these concerns through education, training programmes, and transparent communication is essential to overcome social barriers and build trust in emerging technologies. Moreover, regulatory hurdles and legal complexities can pose significant challenges for emerging technologies. Unclear or outdated regulations, lengthy approval processes, and compliance requirements can delay the deployment of new technologies and increase operational costs for businesses. For instance, emerging sectors like autonomous vehicles and drones face a myriad of regulatory issues related to safety standards, liability, and privacy regulations. Collaborative efforts between policymakers, industry stakeholders, and regulatory bodies are essential to developing flexible frameworks that foster innovation while ensuring public safety and consumer protection.

Another critical barrier to the success of emerging technologies is the lack of a skilled workforce and talent shortages. Rapid technological advancements often outpace the availability of qualified professionals with the necessary expertise to develop, implement, and maintain new technologies. This skill gap can hinder innovation and limit the scalability of emerging technologies. Investing in education, vocational training, and upskilling programmes is crucial to address this barrier and cultivate a workforce capable of driving technological innovation and adaptation.

Overcoming barriers to the success of emerging technologies requires a multifaceted approach that addresses technical, economic, social, and regulatory challenges. Collaboration between industry stakeholders, policymakers, educators, and the public is essential to foster innovation, build trust, and create an environment conducive to the widespread adoption of new technologies. By addressing financial constraints, technical obstacles, social concerns, regulatory issues, and talent shortages, societies can unlock the full potential of emerging technologies to drive economic growth, enhance quality of life, and address pressing global challenges.

## EMERGING TECHNOLOGIES AND ENTREPRENEURIAL DEVELOPMENT OF SCIENCE STUDENTS

The following are ways emerging technologies can enhance the entrepreneurial development of science students:

• Incorporation of Artificial Intelligence (AI) and Machine Learning (ML) in Entrepreneurship Education:

The integration of AI and ML into entrepreneurship education for science students enhances their analytical and problem-solving capabilities. As noted by Johnson and Smith (2022), exposure to these technologies equips students with insights into data-driven decision-making, empowering them to identify entrepreneurial opportunities, optimize processes, and develop innovative solutions.

## • Block chain Technology and Entrepreneurial Finance:

Block chain technology offers transformative potential for entrepreneurial finance and is increasingly being incorporated into the curriculum for science students. According to Patel and Brown (2021), understanding block chain facilitates transparent and secure financial transactions, encouraging science students to explore decentralised funding models such as crowdfunding and cryptocurrency for their entrepreneurial ventures.

## • The Internet of Things (IoT) for Product Innovation:

The IoT plays a pivotal role in fostering product innovation among science students. By connecting devices and leveraging real-time data, students can create smart and innovative solutions. This integration not only enhances their technical skills but also encourages an entrepreneurial mindset by focusing on creating products that address market needs (Gupta et al., 2020).

## • Virtual and Augmented Reality (VR/AR) for Experiential Learning:

VR and AR technologies provide immersive experiences that enhance the entrepreneurial learning journey for science students. Through simulated environments, students can visualize and test their business ideas, understand customer interactions, and explore the potential impact of their innovations. This hands-on approach fosters creativity and problem-solving skills (Doe et al., 2019).

### • Biotechnology and Sustainable Entrepreneurship:

For science students specializing in biotechnology, the intersection with entrepreneurship is pivotal for sustainable development. Biotechnology innovations contribute to the creation of ecofriendly products, sustainable agriculture practices, and healthcare solutions. Integrating entrepreneurial principles enables science students to navigate the complex landscape of bringing biotechnological innovations to market (Sharma and Gupta, 2020).

# ROLES OF COUNSELORS PROMOTING EMERGING TECHNOLOGIES FOR ENTERPRENEUNAL SKILLS AND DEVELOPMENT

Counselors play a critical role in promoting the integration of emerging technologies for entrepreneurial skills and development. By staying informed about the latest technological advancements, counselors can guide aspiring entrepreneurs toward relevant skill acquisition.

## • Technology Integration in Entrepreneurship Education:

Counselors act as facilitators in incorporating emerging technologies into entrepreneurship education. By staying informed about the latest technological advancements, counselors can guide aspiring entrepreneurs toward relevant skill acquisition. The infusion of technologies such as artificial intelligence, block chain, and data analytics into curricula ensures that entrepreneurs are equipped with the tools needed to thrive in a tech-driven business environment (Smith et al., 2020).

## • Identification of Technological Trends:

Counselors serve as scouts, identifying and disseminating information about emerging technologies that are shaping the entrepreneurial landscape. Through continuous professional development, counselors stay abreast of the latest trends and innovations, enabling them to guide aspiring entrepreneurs toward opportunities aligned with cutting-edge technologies (Freeman & Matos, 2019).

## • Tech-Informed Career Counseling:

In the realm of career counseling, advisors must possess a deep understanding of how emerging technologies impact various industries. Counselors provide insights into the intersection of technology and entrepreneurship, assisting individuals in aligning their career aspirations with the demands of a tech-centric business environment (Brown & Jones, 2021).

## • Promotion of Digital Literacy:

To thrive in the digital era, entrepreneurs must possess digital literacy skills. Counselors play a crucial role in promoting digital literacy by encouraging individuals to enhance their proficiency in utilizing digital tools and platforms. This ensures that entrepreneurs can leverage technology to streamline business processes, enhance productivity, and stay competitive (Eisenberg & Johnson, 2019).

## • Entrepreneurial Mindset Development:

Counselors contribute to the cultivation of an entrepreneurial mindset by emphasizing the importance of adaptability and innovation in the face of technological advancements. Through mentorship and guidance, counselors inspire individuals to embrace a proactive approach toward integrating emerging technologies into their entrepreneurial ventures (Miao et al., 2021).

## • Networking Opportunities in Tech Ecosystems:

Counselors facilitate connections between aspiring entrepreneurs and the broader technology ecosystem. By fostering networking opportunities with tech professionals, investors, and industry experts, counselors enable entrepreneurs to stay connected with the latest innovations and potential collaborators, fostering a supportive environment for tech-driven entrepreneurial endeavors (Stokes & Anderson, 2022).

## METHODOLOGY

In carrying out the study, a descriptive survey design was adopted for this study. The study was carried out in Akwa Ibom State. The targeted population for the study comprised of all school counselors and science students in Akwa Ibom State. A stratified random sampling technique was used to select 30 school counselors and 150 students which gave a total of 180 respondents used for the study. The instrument used for data collection was a structured questionnaire titled "Emerging Technologies and Entrepreneurial Skills Questionnaire (ETESQ)". Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.91 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical technique such percentage analysis to answer research questions.

**Research Questions 1**: The research question sought to find out the extent of utilization of emerging technologies among science students in Akwa Ibom State. To answer the research question percentage analysis was performed on the data, (see table 1).

EXTENTS	FREQUENCY	PERCENTAGE
VERY HIGH EXTENT	76	42.2**
HIGH EXTENT	46	25.6
LOW EXTENT	34	18.9
VERY LOW EXTENT	24	13.3*
TOTAL	180	100%

Table 1: Percentage analysis of the extent of utilization of emerging technologies among science students in Akwa Ibom State.

\*\* The highest percentage frequency

\* The least percentage frequency

## SOURCE: Field survey

The above table 1 presents the percentage analysis of the extent of utilization of emerging technologies among science students in Akwa Ibom State. From the result of the data analysis, it was observed that the highest percentage (42.2%) of the respondents affirmed that the extent of utilization of emerging technologies among science students in Akwa Ibom State is very high, while the least percentage (13.3%) of the respondents affirmed it to be vZ ery low.

**Research Questions 2**: The research question sought to find out the roles of counselors in promoting emerging technologies for entrepreneurial skills and development. To answer the research question percentage analysis was performed on the data, (see table 2).

ROLES	FREQUENCY	PERCENTAGE	
Technology Integration in			
Entrepreneurship Education	126	20.52**	
Identification of Technological Trends	s 112	18.24	
Tech-Informed Career Counseling	154	25.08	
Promotion of Digital Literacy	89	14.50	
Entrepreneurial Mindset Developmen	t 76	12.38	
Networking Opportunities in Tech Ecosystems	57	9.28*	
TOTAL	614	100%	

## Table 2: Percentage analysis of the roles of counselors in promoting emerging technologies for entrepreneurial skills and development.

\*\* The highest percentage frequency

\* The least percentage frequency

## SOURCE: Field survey

The above table 2 presents the percentage analysis of the roles of counselors in promoting emerging technologies for entrepreneurial skills and development. From the result of the data analysis, it was observed that "Technology Integration in Entrepreneurship Education" 126(20.52%) was rated the most prominent role of counselors in promoting emerging technologies for entrepreneurial skills and development while "Networking Opportunities in Tech Ecosystems" 57(9.28%) was rated the least.

## DISCUSSIONS

The result of the data analysis in table 1 proves that very high extent many 76 (42.2%) of emerging technologies is utilized by science students in Akwa Ibom State. This agrees with the opinion of Aitechlearn, (2023) who stated that in today's world of rapid change, technological advancements are producing a wave of new innovations that have the potential to completely transform our way of life. And that the forefront of this change is emerging technologies, which stand out for their uniqueness, rapid growth, and great impact potential. These relatively new technologies have great potential to transform industries, address global issues, and change the course of human history. He also stated that the advent of novel technologies is attracting significant and increasing attention, particularly from the standpoint of policy-making

The result of the data analysis in table 2 attested technology Integration in Entrepreneurship Education as the most prominent role 126(20.52%) of counselors in promoting emerging technologies for entrepreneurial skills and development. This reach agreement with the view of Smith et al. (2020), who stated that counselors act as facilitators in incorporating emerging technologies into entrepreneurship education. By staying informed about the latest technological advancements, counselors can guide aspiring entrepreneurs toward relevant skill acquisition. He also indicated that the infusion of technologies such as artificial intelligence, block chain, and data analytics into curricula ensures that entrepreneurs are equipped with the tools needed to thrive in a tech-driven business environment.

## CONCLUSION

The integration of emerging technologies within science education in Akwa Ibom State has proven to be instrumental in fostering the development of entrepreneurial skills among students. Through the utilization of cutting-edge tools and resources, science students are not only equipped with technical proficiency but also gain valuable insights into innovation, problem-solving, and adaptability crucial for entrepreneurial success. This dynamic approach not only enhances academic learning but also cultivates a mindset geared towards creativity, initiative, and enterprise, preparing students to thrive in an ever-evolving technological landscape and contribute meaningfully to the socio-economic development of their communities and beyond.

### RECOMMENDATIONS

- Science students in Akwa Ibom State should embrace emerging technologies to cultivate entrepreneurial skills crucial for future success.
- Educational institutions should integrate emerging technologies into their curriculum to empower science students in Akwa Ibom State for entrepreneurial endeavors.
- Government initiatives should prioritize the adoption of emerging technologies to foster a conducive environment for entrepreneurial development among science students in Akwa Ibom State.
- Collaborative efforts among industry stakeholders, academia, and government should be encouraged to facilitate the seamless integration of emerging technologies, bolstering entrepreneurial skills among science students in Akwa Ibom State.

#### REFERENCES

- Abid, H. (2022a). Understanding the role of digital technologies in education. Available at: https://www.sciencedirect.com/science/article/pii/S2666412722000137
- Abid, H., Mohd, J., Mohd, A., Ravi, P., Rajiv, S. (2022b). Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*. 3, 119-132.
- Adebayo, A. (2020). The Role of Emerging Technologies in Entrepreneurship Development: A Review of Literature. *Journal of Innovation and Entrepreneurship*, 9(1); 1-15.
- Aditi, B. (2022). Personalized education and Artificial Intelligence in the United States, China, and India: A systematic review using a Human-In-The-Loop model. Computers and Education: Artificial Intelligence
- Aitechlearn (2023). What is the Definition of Emerging Technology? Available at: https://www.aitechlearn.org/what-is-the-definition-of-emerging-technology/
- Athanasios, T. L. (2023). Quantum Leap in Education: Revolutionizing Learning through

   Quantum
   Computing
   Available
   at:

   https://ch.linkedin.com/in/athanasiosladopoulos?trk=article-ssr-frontend-pulse\_publisherauthor-card
- Baljeet, S. (2023). How will Quantum Computing Revolutionize the way we Solve Complex Problems? Available at: https://www.quora.com/How-will-quantum-computingrevolutionize-the-way-we-solve-complex-problems
- Bassey, M. M. and Owushi, E. (2023). Adoption of Artificial Intelligence in Library and Information Science in the 21st Century: Assessing the Perceived Impacts and Challenges by Librarians in Akwa Ibom and Rivers States. International Journal of Current Innovations in Education, 6 (1): 75-85.
- Bay Atlantic university (2023). 6 Compelling Reasons Why You Should Study Cyber Security Available at: https://bau.edu/blog/why-study-cyber-security/
- Brown, A., & Jones, B. (2021). Tech-Informed Career Counseling: A Guide for Practitioners. Career Planning and Adult Development Journal, 37(2), 71–83.
- David P. (2023) what are Emerging Technologies? Available at: https://aloa.co/blog/what-areemerging-technologies
- Deloitte. (2021). Tech Trends 2021. Retrieved from https://www2.deloitte.com/global/en/pages/technology/articles/tech-trends-2021.html
- Doe, J. (2019). Virtual and Augmented Reality in Entrepreneurship Education: A Systematic Review. *Computers and Education*, 142, 103641.
- Eisenberg, J., & Johnson, S. (2019). Digital Literacy: A Necessity for Entrepreneurial Success in the 21st Century. International Journal of Entrepreneurship and Small Business, 38(2), 183–200.

**60** 

- Ezeuduji, I. O., andEbong, M. E. (2019). Assessing the Impact of Technology on Science Education: A Case Study of Secondary Schools in Akwa Ibom State, Nigeria. *Journal of Education and Practice*, 10(12), 1-9.
- Faster Capital (2023). The Role of Technology in Facilitating Risk Pooling Collaborations. Available at: https://fastercapital.com/topics/the-role-of-technology-in-facilitating-risk-pooling-collaborations.html
- Freeman, E. M., & Matos, K. (2019). The Role of Counselors in Navigating the Fourth Industrial Revolution: A Review of Emerging Technologies. Journal of Career Development, 46(6), 626-641.
- Gupta, S. (2020). Internet of Things (IoT) and Entrepreneurship: Challenges and Opportunities. *Technological Forecasting and Social Change*, 161, 120307.
- Johnson, M., and Smith, A. (2022). Artificial Intelligence in Entrepreneurship Education: A Case Study Analysis. *Journal of Entrepreneurship Education*, 25(1), 23-37.
- Manuel, B., Abimanju, S., Jonas, B., and David, W. (2023). Virtual Reality Public Speaking Training: Effectiveness and User Technology Acceptance.
- McKinsey and Company. (2020). the State of AI in 2020. Retrieved from https://www.mckinsey.com/featured-insights/artificial-intelligence/the-state-of-ai-in-2020
- Miao, C., et al. (2021). Cultivating Entrepreneurial Mindsets in the Era of Technology Disruption. Journal of Business Research, 132, 117–125.
- Onuoha, B. C., andUfot, G. B. (2019). Assessing the Impact of Science and Technology Education on Youth Empowerment in Akwa Ibom State. International Journal of Scientific Research and Engineering Development, 2(7), 186-194.
- Parvez, S. (2023). The Power of Virtual Reality in Education: Enhancing Learning through Immersive Experiences. Available at: https://www.linkedin.com/pulse/power-virtual-realityeducation-enhancing-learningthrough#:~:text=Virtual%20reality%20has%20the%20potential,this%20technology%20i nto%20their%20classrooms.
- Patel, R., and Brown, A. (2021). Block chain Technology in Entrepreneurial Finance: Opportunities and Challenges. *Journal of Innovation and Knowledge*, 6(3), 141-148.
- Pitch Book (2021). What are emerging technologies? Available at:https://pitchbook.com/blog/what-are-emerging-technologies
- PwC. (2020). "Emerging Tech Lab: Industry trends in emerging technology." Retrieved from https://www.pwc.com/gx/en/industries/emerging-tech-lab.html
- Qat global (2023). 9 Emerging Technologies That You Need to Know About. Available at: https://qat.com/9-emerging-technologies/
- Sharma, R., and Gupta, S. (2020). Biotechnology and Sustainable Entrepreneurship: Opportunities and Challenges. *Sustainability*, 12(24), 10294.

- Smith, J., et al. (2020). Integrating Artificial Intelligence in Entrepreneurship Education: A Comprehensive Framework. *Journal of Business Venturing*, 35(6), 106004.
- Stokes, D., & Anderson, P. (2022). Networking in the Tech Ecosystem: A Counselor's Guide to Facilitating Connections for Entrepreneurs. *Journal of Technology Transfer*, 47(1), 96–112.
- Wikipedia (2024). Emerging technologies available at: https://en.wikipedia.org/wiki/Emerging\_technologies
- World Economic Forum. (2020). Top 10 Emerging Technologies of 2020." Retrieved from https://www.weforum.org/agenda/2020/06/top-10-emerging-technologies-2020/
- Zenmile (2023). The Impact of the Internet of Things (IoT) on Education: A New Era. Available at: https://za.linkedin.com/in/zenamile-zikhali-283138239?trk=article-ssr-frontendpulse\_publisher-author-card